The Erasmus Wilson Lectures

ON

THE GENERAL PATHOLOGY OF TUMOURS.

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LECTURE I.

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MR. PRESIDENT AND GENTLEMEN,—My first duty is to thank you for the honour that you have done me in appointing me to deliver this course of lectures and to express the hope that they will prove of interest to you.

In undertaking pathological research there are three methods that we can adopt: we can either consider the diseases of some particular region of the body, or we can consider separate branches of pathology, such as histology, bacteriology, pathological chemistry, or experimental pathology, or we can consider the different pathological processes which give rise to the phenomena of disease, collecting the necessary facts from different regions and by different means of research. The adoption of the first two methods without correlating the results by the third tends to produce a certain narrowness of mind which is not to the best interest of pathology. For instance, the bacteriologist tends to look upon the microbe as the be all and end all of disease, while the pathological chemist attempts to find the necessary factor in the many chemical products of metabolism. Those, also, who confine their attention to a particular region of the body tend to form ideas of pathology which are adapted to that region only. Now diseases are characterised by certain pathological processes, and these processes are essentially the same, whatever the organ or tissue involved. If we wish, then, to investigate any pathological process we must call to our aid all regions of the body and all methods of research. My own observations have been almost entirely histological. It is sometimes alleged that histology has said its last word in pathology, but this is by no means true. There still remains an immense field for research, more especially in the study of serial sections and in the minute cytological studies which have been up to the present time left mainly to the biologists.

The subject of these lectures—the general pathology of tumours—is one of surpassing interest both from the scientific and from the practical point of view; it is a subject which, in its broader aspects, has received little attention of late years, most recent work having been confined to the study of the malignant growths alone.

In the old days of humoral pathology tumours, like other conditions, were ascribed to the action of one of the so-called vicious humours; later, the blood, and then the lymph, was supposed to play the all-important part; then came the assumption of an hypothetical fluid ("blastema") from which tumours were supposed to separate out by a process akin to crystallisation. After Virchow had shown that every cell was derived from a pre-existing cell, the chief share in tumour causation was given to chronic irritation in spite of the fact that irritation might be prolonged for an indefinite time without giving rise to the development of a tumour. Cohnheim and others attempted to find the common factor in the embryonic rudiment from which all tumours were supposed to originate, but they were obliged to exclude certain cases of undoubted tumour formation. Lastly, of late years, we have seen pathologists endeavouring to find a parasitic origin for sarcoma and carcinoma, although it is impossible, on this supposition, to explain the occurrence of congenital sarcomata. It is evident, then, that the common factor in the pathology of tumour formation has not yet been found, and it is with the idea of attempting to discover this common factor that I have been studying the pathology of tumour formation for the last four or five years. Early in my research it became evident that I could not limit myself to tumours alone, for they form part of a larger group of pathological conditions all of which have to be considered together. In these lectures, therefore, I propose to indicate the direction in which this common factor is to be looked for, and to do this I shall consider in order the classification, life-history, and causation of tumours.

CLASSIFICATION.

Two methods have been adopted for the classification of tumours for pathological purposes; one based on embryology, the other on the histological structure. Now a classification based on embryology is unsatisfactory because an arbitrary period of development is chosen as the starting point—namely, that period in which the embryo consists of three layers, and yet, in spite of this threefold basis, tumours are divided into two primary classes only. It is also unscientific because, since a large portion, at least, of the epithelium of the genito-urinary tract is derived from the mesoblast, it is possible for any kind of epithelial tumour to arise from any one of the three layers. We should, therefore, have epithelial tumours occurring in both of the primary classes and, in consequence, from an examination of any particular tumour, it would be impossible to decide in which class it should be placed. Those who have adopted this method have never carried it out completely; they have assumed that, contrary to the generally accepted views of embryologists, epithelium does not arise from the mesoblast, and they include in the mesoblastic group such tumours as the neuromata and gliomata, which are epiblastic in origin. We can, therefore, conclude that an embryological system of classification is of no use at all. A classification based on histology is not open to these objections; the basis—namely, the histological structure—being a well-defined one, we can, by an examination of any particular tumour, readily determine to which class it belongs.

Having decided, then, that the classification is to be founded on a histological basis, we have next to consider the method by which the different classes can be best formed. The method of which I shall make use is substantially the same as that which I published about three years ago.[1] The ultimate morphological elements of which the organism is composed are the *cells*. It is unfortunate that we have no satisfactory terminology to express the various kinds of cells, but have to make use of such cumbersome expressions as "connective tissue cells," &c. I would suggest that, following the precedent set by the terms "leucocyte," "phagocyte," &c., we should make use of the termination *cyte* to express the meaning *cell*, so that we should have the terms "fibrocyte," "chondrocyte," &c. Epithelial cells might be called "epicytes" and a general term for the connective tissue cells would be found in the term "desmocyte." We should thus have a uniform system of cellular terminology. The cells immediately resulting from the cleavage of the ovum are *indifferent cells*—that is, the individual cells have no characteristics which distinguish them from each other, and in the course of development similar cells may give rise to very different structures. As development proceeds the cells become differentiated into two great classes: (1) cells which in the course of proliferation remain in contact with each other, covering surfaces and lining tubes—namely, epithelial (including endothelial) cells; and (2) cells which in the course of multiplication become separated by intercellular substance or by connective tissue, such as the connective tissue cells, muscle cells, and nerve cells. These last might be collectively named "mesocytes." Now in order that the cells may fulfil their proper functions they are arranged in a definite and orderly manner. These arrangements of cells are called "*tissues*" and are of two kinds: (1) special tissues which have special functions to perform, and (2) connective tissues which act as supports to the special tissues. Again, in order that the tissues may properly perform their functions they are arranged among themselves so as to form *organs*. The organs are, in their turn, so arranged as to form the organism.

Starting from this threefold basis we arrive at a simple and satisfactory classification of tumours. Firstly, taking them in the reverse order, we have a class of organ tumours or organomata. In these tumours we can recognise distinct organs or parts of organs which, however, are not arranged so as to form a body or part of a body. The best known example of this class is the dermoid cyst, in which can be recognised skin, teeth, bones, &c., which are arranged

[1] Journal of Pathology and Bacteriology, vol. vi.

indiscriminately. Secondly, we have a class of tissue tumours or histiomata in which we can recognise distinct tissues which, however, are not arranged among themselves so as to form organs. A fibroma, for example, is a mass of fibrous tissue which is not arranged so as to form a tendon or fascia. Each of the tissues of the body has its representative tumour in this class. Lastly, we have a class of tumours which can be called cell tumours or cytomata, in which we can recognise the cells which, however, are not arranged, at any rate in their growing portions, so as to form tissues. In this class we have carcinomata derived from epithelial and endothelial cells and sarcomata from connective tissue (and muscle) cells. We also have certain tumours which do not fall under the heading either of "sarcoma" or of "carcinoma"; they have been called by various names such as "adenosarcoma," "sarcoma carcinomatodes," &c., and they have sometimes been called "teratomata," thus confusing them with such tumours as dermoid cysts, &c. As I propose to form a new genus for these tumours, I must justify myself by giving a description of their histological characters. These tumours are most frequently met with in the genito-urinary tract, especially in the kidney where they are usually congenital, they are also found in the parotid region and in the liver and I have seen a case in the roof of the naso-pharynx. As met with in the kidney these tumours are seen to be composed mainly of round cells resembling those of a round-celled sarcoma; these cells may be called the primary cells of the tumour. Imbedded in this sarcoma-like tissue are a number of epithelial tubes which may be simple in form or irregular and branched. In some places these tubes may form cysts which may contain intra-cystic growths. In other places may be found spindle cells and striated muscle fibres; fat and mucous tissue may also be present. On more minute examination the epithelial tubes are seen not to be sharply marked off from the sarcoma-like tissue, but the cells of the tubes pass imperceptibly into the surrounding cells. If serial sections are made the tubes are found not to be connected together but to lie completely isolated among the primary cells. The other tissues present also shade off gradually into the surrounding cells. The tubes can be seen to arise by a circular grouping of the primary cells. At first this group has in its centre a mass of homogeneous material apparently derived from the cell bodies; later this material disappears, leaving a central lumen in the group of cells which have now taken on epithelial characters. In some cases the tubes are occupied by a mass of flattened epithelial cells resembling squamous cells. Some of the tubes undergo further changes by the ingrowing of the wall on one side so as to make the lumen assume a crescentric shape on section. When this is the case the epithelium on the outer concave border of the crescent becomes flattened so as to resemble endothelium, the epithelium covering the ingrowth retaining its cubical form. The whole resembles exactly an embryonic Malpighian body with its capsule of Bowman and glomerular tuft before the capillaries have entered it. The explanation of these appearances is to be found as follows. The primary cells of the tumour are to be regarded as indiffe ent cells derived from the intermediate cell-mass of the embryo; these cells, as they proliferate, undergo differentiation, some forming epithelium, others muscular fibres and other structures which may be present. In fact, just as sarcoma is a tumour of connective tissue cells and carcinoma of epithelial cells, so these tumours are tumours of indifferent cells; and just as in sarcoma some of the cells may form definite connective tissue of different kinds, and as in carcinoma some may form epithelial tubes, so in these tumours some of the cells may undergo differentiation and form epithelium and the other kinds of tissue that are met with. Similar appearances are seen in some parotid tumours. In these growths the primary cells are often irregular in shape and have numerous protoplasmic bridges connecting the adjacent cells with each other, resembling the prickle cells of squamous epithelium. If different parts of the tumour are examined it is found that, on the one hand, the cells become separated and the protoplasmic bridges lengthened by the interposition of a homogeneous intercellular substance, thus forming typical mucous tissue or cartilage; while, on the other hand, by a closer apposition of the cells they come in contact and form epithelial tubes which at first contain, as in the kidney tumour, a homogeneous substance which subsequently disappears. These tubes are, as in the former case, isolated among the primary cells of the tumour. Other observers have held the same views as regards these kidney tumours. Mr. F. T. Paul in 1886[2] was of the opinion that they grow out of a developmental abnormality while the tissues of the embryo are still in an imperfect state of differentiation; and Mr. Keith W. Monsarrat[3] states that they are traceable to a perversion of the cellular elements from which, under normal development, the Malpighian bodies and convoluted tubules should arise. Mr. Monsarrat is of the opinion that the sarcoma-like cells arise by proliferation from the epithelial tubes, but he does not give any reason why the cells should be derived from the tubes rather than the tubes from the cells as I have stated above. The fact that the tubes lie isolated in the midst of the sarcoma-like cells points to the view that they are of secondary formation. From these facts it is evident that these tumours are neither sarcomata nor carcinomata, and we are therefore justified in allotting them a distinct place in our classification. I propose for these tumours of indifferent cells the name of "blastomata," which name was, I think, first proposed by Dr. Herbert Snow in a somewhat similar sense.[4]

It would appear to be impossible to distinguish between undifferentiated cells and some forms of connective tissue cells. In fact, it is possible that the round cells of a round-celled sarcoma in reality correspond to these undifferentiated cells and that this growth is, therefore, a pure blastoma, but it is not worth while, on this account, to alter the name of this growth, since it would not serve any useful purpose and would only lead to confusion. The criterion, therefore, between a blastoma and a sarcoma is the fact that in the former some of the cells become differentiated into epithelial cells.

Although the characteristic of the cytomata is the fact that the cells are not arranged so as to form tissues, yet, in many cases, this is only true of their growing portions. In the older parts of the growth fully-formed tissues may be present. In columnar-celled carcinoma, for instance, we find well-formed epithelial tubes, and in sarcoma it is not uncommon to find fully-formed fibrous tissue, cartilage, or bone, and we have seen that in the blastomata differentiation and the formation of distinct tissues occur. The formed tissues are, however, of secondary development and not primary as in the histiomata.

In drawing up a tabular classification of tumours it must be remembered that the species and genera are not so well defined as in a classification in biology, hybrid tumours being frequently met with. If the different kinds of connective tissue tumours are regarded as species the different kinds of epithelial tumours must also be so regarded, so that if fibroma and chondroma are species, carcinoma, sarcoma, and myoma are genera. Under the term "teratoma" I should include only those tumours in which distinct organs, or parts of organs, without any regular arrangement, can be recognised. The term should not be used of a growth merely because it contains a variety of tissues, nor should it be applied to supernumerary limbs and other malformations. The tissue tumours are named by appending the suffix *oma* to a root which expresses the tissue which constitutes the essential part of the growth. Following this rule, the generic name for epithelial histiomata should be "epithelioma." This term has, however, unfortunately been applied to the corresponding cell tumours in which place it is redundant and wholly unnecessary. In consequence we have no generic or specific term for these growths, "adenoma" and "papilloma" being names given to varieties of the species of the genus epithelioma. I should include under the term "adenoma" any tumour which has as its characteristic feature tubes or spaces lined with epithelium whether or not it arises in connexion with a gland. Adenomata sometimes take origin from a surface epithelium as in the skin, in which case they are formed of tubes lined with squamous epithelium, and in the bladder when the tubes are lined with transitional epithelium. The fact that a tumour is composed of epithelial tubes does not necessarily imply that it arises from tubular structures. The term "neuroma" should be confined to those tumours which contain nerve-cells as well as nerve-fibres.

As regards compound terms in the nomenclature of tumours, I am of the opinion that they should be used according to some definite rule. The mere presence of different tissues in the same tumour is no ground for giving it a compound name, otherwise, since all tumours contain

[2] Transactions of the Pathological Society of London, 1886.
[3] Thompson Yates Laboratory Reports, vol. iii., Part 2.
[4] Transactions of the Pathological Society of London, 1896.

blood-vessels and connective tissue, every tumour would have a compound name. Compound names should be restricted to (1) tumours compounded of two or more species of the same genus, and (2) tumours compounded of the species of corresponding genera of the histiomata and cytomata. Thus we can speak of myxlipoma, osteochondroma, fibrosarcoma, &c., and we can also use the term "adenopapilloma." In other cases, if it is necessary to qualify the species it should be accomplished by using a qualifying adjective. We should thus speak of a fibrous adenoma or a vascular fibroma, &c.

With regard to the term "cancer" I would enter a plea for restoring to it the old meaning, as signifying any kind of malignant growth. As a synonym for carcinoma the term "cancer" is redundant and useless, whereas it would be of great use as synonymous with the more cumbrous term "malignant disease."

CLASSIFICATION OF TUMOURS.

A. Organomata or Organ Tumours.

Teratoma (dermoid cyst).

B. Histiomata or Tissue Tumours.

(*a*) ***Connective tissue tumours*** (*desmomata*).—Fibrous tissue, fibroma; fat, lipoma; mucous tissue, myxoma; notochordal tissue, chordoma (of Ribbert); cartilage, chondroma; bone, osteoma; and neuroglia, glioma.

(*b*) ***Lymphoid tissue tumours*** (*lymphomata*).—Lymph-adenoid tissue, lymphadenoma (lymphoma); and bone marrow, myeloma.

(*c*) ***Muscle tumours*** (*myomata*).—Smooth muscle, leiomyoma; and striated muscle, rhabdomyoma.

(*d*) ***Nerve-tissue tumours*** (*neuromata*).—Medullated nerve-tissue, myelinic neuroma; and non-medullated nerve-tissue, amyelinic neuroma.

(*e*) ***Epithelial tissue tumours*** (*epitheliomata*).—Squamous epithelium, squamous adenoma and squamous papilloma; columnar epithelium, columnar adenoma and columnar papilloma; spheroidal epithelium, spheroidal adenoma; and endothelium, angeioma and endothelial papilloma.

C. Cytomata of Cell Tumours.

(*a*) ***Tumours of indifferent cells*** (*blastomata*).

(*b*) ***Tumours of connective tissue cells, also of lymphoid tissue cells and muscle cells*** (*sarcomata*).—(1) Pure sarcomata: round cells, round-celled sarcoma; spindle cells, spindle-celled sarcoma; and giant cells, giant-celled sarcoma. (2) Compound sarcomata: fibrous tissue cells, fibro-sarcoma; cartilage cells, chondro-sarcoma, &c.

(*c*) ***Tumours of epithelial cells*** (*carcinomata*).—Squamous cells, squamous carcinoma; columnar cells, columnar carcinoma; spheroidal cells, spheroidal carcinoma; and endothelial cells, endothelial carcinoma.

From this scheme of classification we arrive at the definition of a tumour: a tumour is a mass of cells, tissues, or organs, resembling those normally present in the body, but arranged atypically, which grows at the expense of the body without at the same time subserving any useful purpose therein. It will be seen that the distinguishing peculiarity of tumours is that they are atypical, not in the structure, but in the arrangement of their component parts.

Having thus classified tumours by analytical methods let us now apply the opposite method of synthesis—that is, let us consider what other pathological processes are allied to tumour formation. Firstly, there are certain cases of progressive hypertrophy of organs which resemble tumours in many respects. Examples are to be found in the prostate, the breast, the spleen, the thyroid gland (goitre), the bones (leontiasis ossea), and possibly also in the lymphatic glands (Hodgkin's disease). In the next place there are certain cases where the whole of one tissue, usually the connective tissue, of an organ undergoes progressive hypertrophy. This is met with in the progressive fibrosis of nerves, in the prostate, where either the epithelium or the stroma may undergo a progressive increase, and possibly also in some cases of cirrhosis of the liver. Again, there are cases of progressive hyperergia or progressive increase of functional activity, such as is found in the kidneys (in diabetes insipidus), in the leucocyte-forming organs (in leucocythæmia), perhaps also in the thyroid gland (in Graves's disease). It is also found in many nervous and mental diseases and in diseases of metabolism. Lastly, there are cases of progressive metaplasia as, for example, in myositis ossificans. All these processes resemble tumour formation in the progressive character of their course and in the fact that they cannot be ascribed to definite extrinsic causal agents and, with tumour formation, they may collectively be called the "progressive processes."

Bearing in mind the foregoing scheme of classification, we can draw the following conclusions. 1. Every kind of tissue in the body has its representative tissue tumour. 2. Every kind of cell, with the exception of nerve-cells, has its representative cell tumour. Cell tumours of nerve-cells have not been described, but muscle cells are represented by myo-sarcoma, cartilage cells by chondro-sarcoma, and the different kinds of epithelial cells by the different kinds of carcinoma, &c. 3. Tumour formation is not an isolated process, but must be considered in its relation with other closely allied processes.

RUDIMENT OF ORIGIN.

I propose now to consider the life-history of tumours and shall commence by discussing the rudiments from which they arise.

Cohnheim[5] endeavoured to find the essential factor in tumour formation in the rudiments from which tumours take origin. According to him all tumours originate in rudiments composed of embryonic cells, separated in the early stages of development, which retain their embryonic characters for an indefinite period of time. It will be unnecessary for me to discuss this theory fully because no one, I imagine, at the present day believes that such a rudiment is a necessary antecedent to tumour formation. It will suffice to point out that this theory will not explain the occurrence of a tumour in a scar or chronic ulcer. Cohnheim himself recognised this difficulty and attempted to evade it by saying that these growths were not tumours in the proper sense of the word. Senn[6] endeavoured to surmount this difficulty by supposing that the rudiment of embryonic cells might be derived by proliferation from adult tissues. These rudiments of Cohnheim, with the exception of moles, have never been described and some of those which have been adduced in support of this theory do not fulfil the conditions laid down by Cohnheim.

Although tumours do not in all cases arise from embryonic rudiments there can be no doubt that they do so in some cases. It is well known that tumours may arise in moles which may be regarded as examples of these rudiments, and the theory would seem to be especially applicable to those tumours which I have called blastomata. In many cases, especially in papillomata and carcinomata, the tumour may be seen to rise directly in the normal tissues at the seat of origin. Some observers state that when this is the case they do not arise from the fully formed cells of the tissue but from the proliferative or mother cells. Undoubtedly tumours are more common in those tissues which exhibit the greatest proliferative capacity, or, in other words, in those tissues which display the greatest capacity for regeneration such as epithelium and connective tissue, but I see no difficulty in supposing that the adult cells, provided that they have not undergone any degenerative change, may undergo proliferation and thus give rise to a tumour. Cells which are in active division naturally assume a more elementary or, as it is called, embryonic condition, but to say, as some do, that before they can proliferate they must undergo a reversion to a more embryonic state is, in many cases at least, I think, to put the cart before the horse.

Tumours may also take origin in the tissues of a pre-existing tumour or in inflammatory products. Thus a carcinoma may arise in an adenoma, a sarcoma in a myoma or in the granulation tissue of a scar or ulcer.

Since the different forms of connective tissue are mutually convertible by the process known as metaplasia, it is not always necessary to presuppose a rudiment consisting of the same kind of tissue as that of which the tumour is composed. For example, since cartilage can arise in fibrous tissue, as is seen in drill bones, it is not necessary to suppose a cartilaginous rudiment to explain the origin of a chondroma. The size of the rudiment, or area of origin, of a tumour is variable; in some cases it may involve the whole of an organ, while in others it may be very minute and it may conceivably consist of a single cell. With regard to the rudiment, then, we can draw the following conclusions. 1. The rudiment may consist (*a*) of a sequestrated collection of embryonic cells, such as described by Cohnheim; (*b*) of the tissues normally present at the point of origin; and (*c*) of tissues of new formation, either of inflammatory origin or

[5] Lectures on General Pathology.
[6] Pathology and Surgical Treatment of Tumours 1895.

the result of previous tumour growth. 2. It is not always necessary to presuppose a rudiment consisting of the same kind of tissue as that of which the tumour is composed. It is evident, therefore, that the common factor in tumour formation is not to be found in the rudiment from which the tumour originates.

GROWTH.

Having considered the rudiment from which the tumour springs we have next to direct our attention to the growth of the tumour from the rudiment. I shall postpone the consideration of the processes of cell division for the present. Tumours grow mainly, if not entirely, by centrifugal growth—that is, by proliferation of their own cells. Coats and others have supposed that, in the case of carcinoma, increase takes place by centripetal growth, that is, by the epithelium in the neighbourhood of the advancing tumour taking a share in the growth, but the evidence in favour of this view is not convincing. Personally, I believe that the growth is centrifugal in all cases but that it is possible for the area of origin to extend by continuity. In some cases also it is possible that a malignant tumour may arise in multiple foci which subsequently fuse together. I agree with Ribbert that the examination of the growing margin of a tumour gives no information as to the structures from which it originated. Centrifugal growth may be either central or peripheral. If the growth is central the tumour will be definitely encapsuled; if peripheral growth occurs the capsule will be more or less indistinct and the tumour will be infiltrating. In order to consider the origin and mode of growth in more detail, it will be necessary to treat of the different classes separately.

Organomata.—Many views have been held at different times as to the origin of the teratomata. Seeing that they occur most commonly in the ovary it is not unnatural to suppose that they originate in the germ-cells, either by the irregular development of a fertilised ovum or by a kind of parthenogenesis. This idea is unsatisfactory since, although the most complicated dermoids undoubtedly occur most frequently in the ovary, yet they are sometimes found in other parts of the body where germ-cells cannot be concerned. Nor is it sufficient to suppose that they arise in an abnormal inclusion of epiblast since the structures met with in these tumours are developed as much from the mesoblast as from the epiblast. These tumours must be considered as errors of development just as other tumours may be regarded as errors of growth, and the increase in size is accompanied by a process of development, a fact which distinguishes them from other tumours. For instance, the bones met with in dermoids are not merely irregular masses of osseous tissue such as are found in other growths, but are definite bones with a distinct periosteum although, the development taking place without reference to the needs of the organism, the bones thus formed do not, as a rule, bear any resemblance to any individual bones. The difference between teratomata and malformations consists in the fact that in the latter the organs are found to be arranged in a more or less typical manner such as occurs, for instance, in a limb, a condition which we do not find in a teratoma. As to the rudiment from which these tumours arise we do not know whether it consists of the structures usually present at the point of origin or of structures which have been included and are, in reality, derived from a distance.

Histiomata.—The growth of the tissue tumours takes place in exactly the same way as the growth of the normal tissues. The tissues of the tumour during growth always preserve their proper characters; thus, the epithelium in an adenoma never loses its character as a tissue, it always forms a continuous membrane formed of cells in contact with each other lining tubes and spaces. Tissue tumours grow, for the most part, by central growth. Some fibromata, however, grow in part by peripheral growth and can therefore surround gland tubules, &c., so that they come to be imbedded in the tumour. The same is the case with some other tumours such as lipomata. The mode of growth in osteomata does not seem to have been determined; many growths called osteomata are in reality ossifying chondromata. The true osteoma such as is met with in the skull sometimes involves both tables and, from its macroscopic appearances, would seem to increase by centrifugal growth, that is, by proliferation of the osteocytes themselves. This mode of growth would be in conformity with the growth of other tumours, but I have not had an opportunity of verifying it.

With regard to the epithelial histiomata the question arises: What part does the connective tissue play in the growth? Many authors regard the stroma as playing an equal part with the epithelium. I, however, look upon it as altogether secondary in importance to the epithelium. As epithelium is an avascular tissue it is entirely dependent on the surrounding connective tissue for its nutrition. If, therefore, the epithelium proliferate, there must be a concomitant proliferation of the neighbouring connective tissue. Epithelial histiomata arise by a proliferation of epithelium which gives rise to an increase of surface area. This increase can only be provided for by the occurrence of one of two events: either the proliferating area projects above the surrounding surface or it becomes invaginated into the subjacent tissue; in the former case the resulting tumour is a papilloma, in the latter it is an adenoma. In a papilloma the projecting area will necessarily carry with it a central core of fibrous tissue derived from the subjacent connective tissue of the part. Just as a papilloma may arise where there are normally no papillæ, so an adenoma may originate from a surface epithelium where there are no glands. I have seen a tumour of the bladder in which the epithelium, instead of projecting so as to form a papilloma as is usually the case, was invaginated into the subjacent tissue in the form of tubes lined with transitional epithelium without there being any penetration of the epithelial cells into the surrounding tissues, such as is the case in carcinoma; the growth was, moreover, clinically benign in character. Structurally the tumour corresponded exactly with an ordinary adenomatous polypus of the rectum. Similar growths have been described in the skin by Bland-Sutton[7] and others. In this position, as in the bladder and rectum, they form pedunculated tumours formed of tubes lined with epithelium. In all probability such tumours have occasionally been described as carcinomata, but they can be distinguished by the fact that there is no tendency for the individual epithelial cells to penetrate into the surrounding tissues. Epithelial histiomata often present a combination of papilloma and adenoma, especially in the bladder and rectum.

With a view to studying the origin and growth of these epithelial tumours I have applied the method of serial sections. By this method the errors of interpretation which arise from the examination of a single section are entirely eliminated and we can obtain a mental picture of the complete structure of the tumour. Unfortunately it is difficult to obtain tumours of sufficiently small size for this method to be applicable. From the examination of an adenoma of the rectum by this method I came to the conclusion[8] that it arose, not from the crypts of Lieberkühn but from the surface epithelium, the tubes of which it was composed being new formed by invagination from the surface. A similar examination of the lobules of a large lobulated adenoma of the breast revealed the fact that all the epithelial tubes in the lobule were branches of a single tube which entered the lobule from the main tumour. It is probable, therefore, that all the tubes in an adenoma of the breast are in direct continuity with each other, and that therefore they arise from a single epithelial rudiment.

Cytomata.—The growth of the cell tumours differs from that of the tissue tumours in that the growing portions consist of cells more or less loosely held together but not forming definite tissues. These cells readily penetrate into the interstices of the surrounding tissues. Any formed tissues which may be present in cytomata are of secondary, not primary, formation.

Carcinomata arise from epithelium or endothelium. The area of origin may be localised or may involve the whole of an organ as in the rare cases of diffuse carcinosis met with in the breast and kidney. The stroma is derived from the surrounding tissues and represents the reaction of the tissues against the invading epithelial cells. The growth in carcinomata is almost entirely peripheral, and takes place by individual cells or small group of cells penetrating into the surrounding connective tissue spaces. This can be detected even in columnar-celled carcinomata, at the growing edge of which can be seen rows and groups of columnar cells invading the surrounding tissues, the tubes being secondary formations. The growth therefore differs entirely from that of an adenoma in which the growth takes place primarily in the form of tubes.

Sarcomata arise in any form of connective tissue and the area of origin may be limited or may involve the whole of the connective tissue of an organ, as is seen in the rare cases

[7] Transactions of the Pathological Society of London, 1892.
[8] Journal of Pathology and Bacteriology, vol. vii.

of diffuse sarcoma of the liver. Growth is both central and peripheral, and there is often a secondary formation of definite tissues such as fibrous tissue or cartilage. I have already considered the growth of the blastomata.

TERMINATION.

Tumours in most cases continue to increase in size without attaining to any final termination. In some cases a limit is reached owing to a change in structure such as ossification or calcification. In other cases, again, a tumour after growing for a time may become stationary. In rare cases a tumour may decrease in size and ultimately disappear, and this without undergoing ulceration or necrosis. Sir William H. Bennett, in a clinical lecture at St. George's Hospital about three years ago,[9] gave examples occurring in his practice which show the possibility of malignant growths completely disappearing without any special treatment. In four cases verified microscopically as sarcoma the patients regained perfect health, the tumours disappearing completely. One of these was an abdominal spindle-celled sarcoma, two were melanotic sarcomata with disseminated growths, and the other was a sarcoma of the testis. In two cases of carcinoma in which the primary growth was removed and in which recurrence took place the recurrent growths subsequently became smaller and eventually almost completely disappeared. In one of these cases the primary growth was in the testis and in the other it was in the breast, and both were verified microscopically. Another case of carcinoma of the breast (not verified) was known to have remained stationary for 15 years. Another was a case of malignant disease of the pylorus with obstruction; this was not verified, but at the operation for gastro-jejunostomy numerous secondary growths in the omentum and under the liver were seen and handled. In this case the patient recovered completely and was well five years after the operation, no growths being then discoverable. He also mentions a case of apparently malignant disease of the cervical glands too extensive for operation in which the patient recovered. Besides these remarkable cases—and they were only examples of many more which had come under the observation of Sir William Bennett—there have been recorded lately many cases of carcinoma of the breast which have improved after the operation of oöphorectomy in combination with thyroid feeding and other cases which have improved without special treatment. It is, therefore, a mistake to say that a tumour always continues to grow without limit; it may, under certain conditions which are imperfectly understood, become stationary or even diminish in size or disappear completely.

PHYSIOLOGICAL CHARACTERS.

We have next to consider whether the cells and tissues of which a tumour is composed are capable of behaving physiologically like the cells and tissues of normal organs, or, in other words, are the cells and tissues of a tumour capable of performing any function? In considering this question we have to remember the fact that the cells of a tumour are in a state of more or less rapid proliferation and we should not, therefore, expect to find them very active in the performance of any function. Moreover, owing to the atypical arrangement which is characteristic of a tumour, there is no mechanism by which the performance of a function can be initiated, and, for the same reason, any function that may be performed is incapable of being utilised. The muscle-cells of a myoma, for instance, are probably capable of contraction, but, owing to the want of nervous connexion and the atypical arrangement, this power of contraction is not manifested and, if it did take place, it would serve no useful purpose. In spite of this there are several facts which show that the cells of a tumour are capable of functionating. The sebaceous glands of a dermoid secrete sebum, the cells of an adenoma or carcinoma of the intestine secrete mucin, adenomata of the thyroid contain colloid, and adenomata of the breast sometimes contain a milky fluid. Also the cells of a squamous-celled carcinoma undergo keratinisation, those of a carcinoma of the stomach form pepsin and rennin, and those of a carcinoma of the pancreas contain all the ferments proper to the pancreas, and this is true, at any rate in the case of the pancreas, of secondary, as well as of primary, growths (Waring).[10]

Perhaps the most remarkable physiological characteristic of tumour-cells is the property which they possess of storing enormous quantities of glycogen. In this respect, according to Brault,[11] they far exceed all the normal cells of the body and they can only be compared with the rapidly proliferating cells of the embryo. Those tumours which grow the most rapidly contain the greatest amount of glycogen, and from the study of the amount contained in a tumour the rate of growth can be judged. The cells of carcinomata and sarcomata are loaded with glycogen, while the surrounding tissues show a complete absence of it. The presence of this glycogen raises some interesting points for our consideration. Firstly, what is the meaning of this great store of carbohydrate material? Carbohydrate material is the great source of energy in the living organism; it is to the body what the fuel is to the steam engine. In the case of the embryo and in tumour formation energy is manifested by the multiplication of cells, and in order to supply this energy the cells store up carbohydrate in the form of glycogen. Secondly, what is the origin of the glycogen? Presumably it is formed in the same way as under normal conditions from the circulating glucose; if, however, the supply be deficient, it can be derived from the proteids of the body as in the severer forms of diabetes. Lastly, what becomes of the glycogen? Although there is such an enormous store of glycogen, yet, as far as I know, malignant disease is seldom or never accompanied by glycosuria. The glycogen is used up in the multiplication of cells because the central parts of a carcinoma, where proliferation has ceased, are completely free from it. It is probably directly oxidised and eliminated as carbon dioxide and water. This question of the presence of glycogen in tumours is well worth further study, especially by those who take a special interest in metabolic processes.

PATHOLOGICAL CHANGES.

The pathological changes to which tumours are subject need not detain us since they are the same to which any normal tissue is liable. Tumours are liable to the various retrogressive processes, especially to mucoid and fatty changes and calcification, to necrosis, to inflammation and repair, and to the formation of new tumours.

CLINICAL CHARACTERS.

It will be noticed that in the classification which I have given the histiomata and cytomata correspond respectively to the simple and malignant tumours of a clinical classification. Most authors state that tumours, usually simple, may occasionally take on malignant characters, and this is especially supposed to be the case with chondromata. This idea is based chiefly on a case reported by Paget of a chondroma of the testis which gave rise to metastatic growths in the lungs and elsewhere. This case, however, was re-investigated by Kanthack and Pigg,[12] who found that it was not a pure chondroma, but that it contained carcinomatous elements, and in the same way it will, I think, be found that whenever a tumour that is apparently a tissue tumour displays malignant properties it is in reality a cell tumour.

In my opinion the difference between simple and malignant tumours is to be found in the manner in which they grow. The growing area of a cell tumour consists of cells, either separate or in small groups, not forming any definite tissue, any formed tissues that may be present in the tumour being of secondary formation. The tissues in a tissue tumour, on the other hand, are of primary formation. For example, the growing area of a columnar-celled carcinoma consists of columnar cells in rows or groups which only secondarily give rise to epithelial tubes, whereas in an adenoma the growing area consists of epithelial tubes similar to those in the older parts of the tumour. Similarly in a chondro-sarcoma the growing area consists of collections of cells which only secondarily form cartilage, while in a chondroma the cartilage grows in the same way as under normal conditions.

The mode of growth in cell tumours readily explains how it is that these tumours penetrate the surrounding structures instead of merely displacing them and how the cells find their way into the lymphatics and blood-vessels and so come to be distributed to distant organs.

The wasting and cachexia by which malignant tumours are often accompanied may probably be explained by the drain of nutritive material, especially carbohydrate, caused by the rapidly growing tumour.

The clinical features of malignant disease are very imperfectly dealt with in most books. The ordinary text-books of

[9] THE LANCET, Jan. 7th, 1899, p. 3.
[10] Journal of Anatomy and Physiology, vol. xxviii.
[11] Manuel d'Histologie Pathologique, Cornil and Ranvier, 1901.
[12] Journal of Pathology and Bacteriology, vol. v.

medicine—even Allbutt's System of Medicine—are silent on the medical aspects of carcinoma and sarcoma and little is to be gathered from other sources. There seems to be no full account of the temperature and urine, and the blood has not received the attention that it deserves. We require much more information as to these points, especially with regard to the excretion of nitrogen.

LECTURE II.

Delivered on Feb. 13th.

MR. PRESIDENT AND GENTLEMEN,—In this lecture I propose to consider certain theories which have been advanced to explain the causation of tumours, but it will first be necessary to draw your attention to the minute structure of the cell and to the changes which it undergoes during the process of cell division.

CELL STRUCTURE AND CELL DIVISION.

In the normal cell at rest the following constituents can be recognised.[13] 1. The *cytoplasm* or protoplasm of the cell body. 2. The *nucleus*, which consists of the following parts: (*a*) the *nuclear membrane*, which gives to the nucleus its sharp contour; (*b*) the *nuclear reticulum*, which consists partly of chromatin, which is the most important constituent and which gives to the nucleus its intense staining properties, and partly of linin, which resembles the cytoplasm in staining reactions; (*c*) the *nucleoli*, of which there are two kinds, the *plasmosomes* or true nucleoli, which stain like the cytoplasm, and the *karyosomes*, which stain like the chromatic substance; and (*d*) the *karyolymph*, which occupies the meshes of the nuclear reticulum. 3. Lastly, there is the *centrosome*, which is usually situated in the cytoplasm, but which is occasionally found in the nucleus. The centrosome is a permanent constituent of some cells, but it has not been shown to be so in all. It appears as a minute body staining with the nuclear dyes and is surrounded by a spherical body known as the *centrosphere* or attraction sphere. From the centrosome there often radiate achromatic fibres forming the *aster*. The functions of the centrosome are not yet fully known, but there are reasons for regarding it as the dynamic centre of the cell—that is, the centre which regulates the movements of the cell. In some cells the centrosome has been found to have intimate relations with the cilia; this is especially the case in the spermatozoon in which the centrosome is found in the middle piece at the attachment of the tail. In the leucocyte the centrosome and aster are permanent and are supposed by some to influence the amœboid movements. In epithelial cells the centrosome is usually found towards the free border of the cell. The chromatin of the nucleus at rest is arranged in the form of a network. Now, the first indication of division of the cell by mitosis is found in the centrosome which divides. This division sometimes takes place immediately after the preceding division, so that the centrosome in the resting cell often appears double. The two halves then separate and, at the same time, there appears a structure composed of achromatic fibres known as the *amphiaster*, which consists of an aster at each end with its centre at the centrosome and the intervening *achromatic spindle* uniting the two centrosomes. At the same time that these changes are taking place in the centrosome the nucleus undergoes alterations; the chromatin becomes arranged in the form of a skein or *spireme*, which then splits into a certain number of segments called *chromosomes*, which are themselves composed of minute granules called *chromomeres*. The chromomeres next undergo division in such a way that each chromosome comes to consist of two parallel rows of chromomeres. The nuclear membrane has by this time disappeared and the chromosomes are drawn into the axis of the achromatic spindle, to the fibres of which they become attached. The two halves of the chromosomes, then, under the influence of the achromatic fibres, become separated and pass towards the centrosomes and finally rearrange themselves so as to form the nuclei of the daughter cells. The cell body begins to divide as the chromosomes separate, apparently also under the influence of the achromatic substance. We thus see that, while the division of the chromosomes is spontaneous, their separation is due to the action of the centrosomes and the amphiaster and that, in consequence, the centrosome should be considered as the prime agent in the division of the cell.

[13] Wilson: The Cell in Development and Inheritance.

The centrosome and its associated achromatic substance or *archoplasm* have been strangely neglected by pathologists, although they form such an important part of the cell. Under normal conditions the result of mitosis is that each daughter cell contains exactly the same number of chromosomes as the mother cell, this number being fixed for each species of animal. In animals multiplying by sexual reproduction this number is always even, and in man it is said to be 16. I have been able to verify this number in the case of a few carcinoma cells which I have come across in which it has been possible to enumerate the distinct chromosomes.

In malignant growths and in some other conditions accompanied by rapid proliferation we often find a deviation from the typical form of mitosis; thus we find *asymmetrical mitosis*, in which the daughter cells contain an unequal number of chromosomes, and *multipolar mitosis*, in which the cell divides simultaneously into more than two daughter cells. Multipolar mitosis arises from the division of the centrosome into more than two parts; each part is associated with a cone of achromatic fibres which passes to the chromosomes. I have not been able to determine the number of chromosomes in the daughter nuclei in these cases. In most cases of quadripolar mitosis which I have seen the daughter nuclei were not in the same plane but were at points corresponding to the angles of a regular tetrahedron.

Amitosis, or direct division, is often met with in malignant tumours and especially in those which are undergoing degeneration. In this mode of division the nucleus becomes divided in two by a septum; the two halves then separate and this is followed by division of the cytoplasm. Frequently, however, the cell body fails to divide and thus arise cells with two or more nuclei. Another method of amitosis is described by Brault,[14] and from my own observations I can confirm his description. In this method the nucleus becomes drawn out into two or more parts, each part becoming the nucleus of a daughter cell. In other cases the nucleus may give off buds which form daughter nuclei. Occasionally the nucleus becomes split up into a number of chromatin particles of varying size which become scattered in the cytoplasm. That is known as fragmentation or *karyorrhexis*.

Endogenous formation of cells used to be thought a common event in carcinoma; lately, however, doubts have been thrown on its existence, chiefly by those who uphold the parasitic theory. Personally I have no doubt that this process does occur and I should describe the method as follows. A portion of the nucleus becomes separated by fragmentation or budding, it then gathers round it some of the neighbouring cytoplasm which becomes separated from the rest of the cell body, and thus forms a daughter cell which gradually increases in size until it becomes a fully formed cell lying in a vacuole in the mother cell. In other cases the daughter cell is the result of an amitotic division in which one of the resulting cells lies within the other instead of separating from it as is usually the case. In this connexion it must be remembered that the chromomeres, of which the nuclear chromatin is composed, are, to a certain extent, living units capable of division and growth, so that it may be possible for a minute portion of the nucleus to grow so as to form the nucleus of a new cell. These included cells are of common occurrence in some carcinomata and sarcomata, and it is not uncommon to see a granddaughter cell within the daughter cell. I have proved by means of serial sections that these cells are really inclosed and not merely invaginated, and it is difficult to conceive how they come to be so inclosed unless they are formed *in situ*.

EXTRINSIC CAUSES.

Causal factors may be divided into those which are of extrinsic and those which are of intrinsic origin. When we speak of a disease as a whole the term *extrinsic* implies that the factor is derived from outside the body; when, however, a disease is considered in its relation to any particular organ the term implies that the causal factor is derived from outside that organ, but not necessarily from outside the body. Extrinsic factors undoubtedly play an important part in the causation of tumour formation. Tumours may arise as a result of chronic irritation such as that produced by constant friction or by the presence of a chronic ulcer; they have also been ascribed to a blow or sudden injury as in the case

[14] Manuel d'Histologie Pathologique, Cornil and Ranvier.

of a sarcoma arising at the site of a fracture in a bone. These extrinsic factors, which are known by the general term *irritants*, are also the exciters of inflammatory processes, but there is this difference between the two cases. When inflammation follows the action of an irritant the amount of inflammation depends on the amount of irritation and on removing the irritant the inflammatory process ceases and the injury is made good; in the case of a tumour following the action of an irritant, on the other hand, the action of the irritant may be momentary while the growth of the tumour is prolonged and the removal of the irritant does not cause the cessation of the tumour growth.

These extrinsic factors, therefore, cannot be the essential causal factors of tumour formation and can only be remote factors which act through the medium of intermediate intrinsic factors. We must, however, consider the possibility of the existence of a special extrinsic factor, such as an animal or vegetable parasite. The theory of parasitic causation of tumour formation has gained a large amount of acceptance at the present time and, indeed, almost all those who are working at the subject are approaching it from this point of view. This theory is only supposed to apply to those tumours which are malignant, but it is equally necessary to explain the formation of simple tumours if an extrinsic factor is thought to be essential at all, because the continuous and increasing growth of the tumour demands a continuous and increasing causal factor. I myself have not engaged in the search for a parasite although I have seen the bodies claimed to be of that nature. I have, however, studied minutely the histology and general pathology of tumours with a view to determining whether or not tumour formation can be explained by this theory and I have come to the conclusion that the essential causal factor cannot be found in any extrinsic irritant, whether parasitic or not. On account of the importance of this theory it is necessary to examine it closely and carefully to consider the arguments on both sides. In the following remarks I shall, for the sake of simplicity, use the term carcinoma, but the arguments will, as a rule, equally apply to sarcoma.

PARASITIC THEORY.

In discussing this theory, I shall first consider the basis on which it is founded, afterwards I shall consider in detail various objections which can be brought against it. The theory is based:—

1. *On the apparent resemblance of carcinoma to infective diseases such as tuberculosis.*—Carcinoma, at first sight, closely resembles tuberculosis in many respects. Both have a local origin and give rise to secondary deposits, first in the regional lymphatic glands, and later in the various organs of the body. When, however, we come to study the histology of the lesions in the two cases, the resemblance at once disappears. We find that the tuberculous nodule is made up of cells which are derived partly from cells which have exuded from the blood-vessels, and partly from the tissues of the part in which the bacillus has settled. A carcinomatous nodule, on the other hand, is composed of cells which are derived in secondary growths not from the part in which the growth is situated, but from the primary tumour, wherever this may be placed. We can, indeed, compare the epithelial cells of the carcinomatous nodule with the bacilli in a tubercle, and if we do this the analogy between the two diseases is complete, the stroma of the carcinoma corresponding to the histological tubercle, while the epithelial cells correspond with the bacilli in the tubercle. If, however, the comparison is made in this way the argument in favour of the parasitic origin of carcinoma from the analogy with tuberculosis completely fails, because, if we grant that the tubercle bacilli are capable of spontaneous proliferation, we cannot argue that their analogues, the epithelial cells of a carcinoma, can only proliferate under the influence of a parasite.

2. *On the inoculability of malignant growths.*—A few cases are on record in which a patient afflicted with carcinoma has apparently infected another person with the disease; these cases are, however, extremely rare and would seem to be no more than coincidences. If tumours were due to parasites we should expect the infectivity to be much more marked. Growths are sometimes met with on the genital organs of bulldogs; they have been especially described by Washbourn and Bellingham Smith[15] under the name of infective sarcomata. These growths are highly contagious but show only a slight degree of malignancy; they are slow of growth and rarely give rise to metastasis and they cannot be transferred to any animals except dogs. Microscopically they closely resemble round-celled sarcomata. In two cases which I have had the opportunity of examining the growths had been present for 12 months and yet there was very little infiltration of the surrounding parts. Both were situated in the vagina and in one case there was a secondary growth in one of the mammary glands, yet, notwithstanding this, a complete cure took place after the removal of the affected part of the vagina and the secondary growth. As, therefore, these growths differ so largely from sarcomata as we meet them in man, we must be careful how we use them as an argument in favour of the parasitic theory. The fact that a tumour is inoculable does not necessarily imply that it is due to a parasite. The infective agent may very well be the epithelial cells themselves, since it must not be forgotten that they are living units. In skin-grafting we see that epithelial cells can be transplanted and, if this is true of normal cells, it is probably true also of the cells of a carcinoma. Malignant tumours have been successfully transferred from one animal to another but only if the two animals are of the same species.

3. *On the analogy with the lesions produced in the rabbit's liver and elsewhere by the coccidium oviforme.*—In coccidiosis of the liver we find numerous small cavities which are filled with the coccidia in various stages of development. On examining these spaces we find that they are lined by columnar epithelium and are evidently local dilatations of the bile-ducts. The younger forms of the parasite are found within the epithelial cells while the older are lying free in the cavity. This has been regarded as an example of true tumour formation caused by a parasite. I have not myself examined critically many of these cases, but from what I have seen I am more inclined to look upon them as a kind of retention cyst caused by the accumulation of the parasites in much the same way as bronchiectasis may be due to the accumulation of the bronchial secretion. The proliferation of the epithelium would in that case be of the same nature as that found in catarrhal inflammation. Occasionally the parasites are found in a cavity in the connective tissue and in that case the wall of the cavity consists of fibrous tissue without any epithelial lining, as would be the case with any other chronic irritant. In any case we do not in coccidiosis find the essential lesion of carcinoma—namely, penetration of the connective tissue by the epithelial cells,—so that if any conclusion is to be drawn from the supposed analogy it is that non-malignant tumours are caused by parasites.

4. *On the topographical distribution of carcinoma.*—Carcinoma may in a sense be called a disease of civilisation—that is, it is more frequent among civilised nations than among savages and it is more common among domesticated than among wild animals. It is said to be more frequent in valleys the rivers of which are liable to floods. These are conditions which affect the general health and it does not seem necessary to assume a parasite in explanation. In some places there are said to be certain houses the inmates of which are more liable to cancer than are those of other houses, but we require more information on this point before we can draw any conclusions from it.

The above four facts are the bases on which is founded the general idea that malignant growths are due to parasites. There remains to be considered the question whether carcinoma is due to certain bodies described as parasites which are found in the tumour cells. From time to time during the last 11 years certain structures which are found within and between the cells of carcinomata have been described by numerous observers as parasites. There is, however, no agreement among the different observers as to the nature of these bodies nor as to which of the various cell inclusions are and which are not parasitic in nature. Two of the best papers which have been published of late years on this subject are those by Plimmer[16] and Gaylord.[17] Plimmer describes the parasite as a round body varying in size from 0·004 to 0·04 millimetre or more in diameter. In the centre is a minute body which he calls a nucleus, although, as he says, it probably does not correspond with the nucleus of an ordinary cell. Round the nucleus is a layer of homogeneous protoplasm which is bounded by a definite capsule. According to Plimmer, the nucleus of the parasite differs from the nucleus of a cell in its staining properties by refusing basic stains such as hæmatoxylin and

[15] Brit. Med. Jour., vol. ii., 1898.

[16] Practitioner, April, 1899.

[17] American Journal of Medical Sciences, May, 1901.

staining with acid stains such as acid fuchsin. The parasites are found only in the growing edge of the tumour and are absent from the centre; they are said to multiply by fission and segmentation, and perhaps, also, by budding. He found them in 1130 out of 1278 cases of carcinoma. Gaylord accepts Plimmer's bodies as parasites and also includes other forms such as Russell's fuchsin bodies. He relies chiefly on unstained specimens, but in an investigation of numerous specimens by Plimmer's methods he found them in every case of carcinoma and sarcoma that he examined and also in specimens of myxoma, adeno-fibroma, colloid goitre, and syphilitic lymphatic glands. According to him the parasites in the fresh state closely resemble fat globules from which, however, they can be distinguished by the fact that they are insoluble in ether and that they do not react like fat to osmic acid. He further states that the parasites can be detected in the blood of all cases of carcinoma and sarcoma in which cachexia is well marked. In opposition to Plimmer he says that the fluid obtained from the centre of carcinomata which have undergone degeneration consists practically of a pure culture or the organism.

As regards the cultivation of these parasites Plimmer was able from one case of carcinoma of the breast to isolate an organism which he identified as a blastomyces, and he was able by inoculating guinea-pigs to produce growths of endothelial origin in which he could recognise the organisms. Gaylord, on the other hand, working with a pure culture of Plimmer's yeast, was unable to reproduce in inoculated guinea-pigs bodies having a similar appearance to those met with in carcinoma. The results of inoculation were of a granulomatous nature. He was unable to obtain a culture of blastomyces from carcinomata except in one case, although he used as many as 64 different kinds of culture medium. Gaylord, by inoculating guinea-pigs with ascitic fluid derived from a case of carcinoma of the peritoneum, claims to have been able to produce nodules in the lungs which had some resemblance to carcinoma, but, judging from his illustrations, these nodules bear a close resemblance to the lymphoid nodules which are normally present in a guinea-pig's lung. His researches are being continued and we are promised a further communication on the subject.

We thus see that these two observers, both ardent advocates of the parasitic theory, differ from each other on some important points. Now it will be said, If these bodies are not parasites what are they? The answer to this question involves a consideration of the different inclusions which may be met with in carcinoma. Firstly, the cells of carcinomata are prone to degenerations of different kinds such as fatty, hyaline, colloid, and mucoid changes. According to the two observers, the parasites can readily be distinguished from the appearances due to these changes. The case, however, on which Gaylord made most of his observations was one of colloid carcinoma. Many pathologists, also, regard Russell's fuchsin bodies as resulting from hyaline degeneration. In the next place we meet with leucocytes and, occasionally, red corpuscles included in carcinoma cells. Of these, the red corpuscles would give rise to the greatest difficulty, but with reasonable care they should be readily distinguished. Then there are various appearances dependent on the rapid and irregular division of the cells, and it is here that the greatest difficulty would present itself. I have frequently seen a particle of chromatin which has become detached from the nucleus surrounded by a layer of protoplasm lying in the protoplasm of the epithelial cell, the whole forming a body exactly resembling one of Plimmer's bodies except that the nucleus stained with basic dyes. It is difficult to suppose that bodies so exactly similar should be of such entirely different characters, and I think it justifiable to suppose that those bodies in which the nucleus takes the acid stain may be of the same nature as those in which the nucleus stains with the basic dye, the nucleus having, perhaps, undergone some change which alters its staining properties. Gaylord states that he has succeeded in staining the nuclei of Plimmer's bodies with hæmatoxylin.

The various stages of endogenous formation may account for some of the structures supposed to be parasites. Sections through a daughter cell inclosed within a mother cell which do not pass through the nucleus of the daughter cell give rise to the appearance of a non-nucleated body lying in the epithelial cell such as is shown in one of Gaylord's illustrations. Again, nucleoli, especially plasmosomes, frequently escape from the nucleus into the protoplasm and give rise to bodies closely resembling the so-called parasites. Lastly, there are the centrosphere and its contained centrosome. Borrel,[18] who is in favour of the parasitic theory, has shown that alterations in the attraction sphere may give rise to exactly the same appearances as those described as parasites, and I think that no one who has seen the illustrations of his paper can have any doubt that the appearances which he ascribes to variations of the attraction sphere are the same as those which others ascribe to the parasites. In the spermatocytes of the testis of the guinea-pig there are bodies of archoplasmic origin which are sometimes called "paranuclei." These bodies are round and may contain one or more centrosomes; they stain with acid dyes and sometimes show a central spot which takes the stain more deeply than the periphery. They vary in size, some of them being almost as large as the nucleus. Like Plimmer's bodies, they are not found in cells which are undergoing mitosis. I am certain that if these bodies were seen in the cells of a carcinoma they would be at once branded as parasites. The appearances described by Plimmer as being characteristic of the parasites could all be explained on the assumption that they are of archoplasmic origin. Therefore, before these bodies are accepted as parasites the possibility of their being derived from pre-existing cell-structures must be fully considered.

From the foregoing remarks it will be seen that the grounds on which the parasitic theory is based are by no means satisfactory. I must next consider various objections to the theory. In the first place, as I have pointed out elsewhere,[19] we know of no disease characterised by definite anatomical lesions which is at the same time characterised by a definite extrinsic causal factor; neither do we know of any disease characterised by a definite extrinsic factor which is at the same time characterised by definite lesions. Therefore, since tumours are characterised by their anatomical structure, we should not expect them to be due to definite extrinsic causal agents. In the next place, we know of no parasites which are capable of producing primarily a proliferation of cells. Adami[20] is somewhat inconsistent on this point, for he says in one place that proliferation is an intrinsic property of the cell and is only influenced indirectly by external conditions and in another place he states that an irritant which, when concentrated, produces destruction, when diluted produces proliferation. In the case of all known parasites the first effect is injury or destruction, any proliferation which subsequently takes place being compensatory in nature to replace the cells which have been destroyed. I am not convinced that the proliferation of epithelial cells in coccidiosis is primary—that is, that the parasite directly causes proliferation. Even if a parasite were capable of causing a primary proliferation it would not explain the occurrence of a carcinoma since the essential lesion of carcinoma is not proliferation but is penetration of the epithelial cells into the connective tissue. In the next place, the reaction of the organism against all known parasites, animal and vegetable, is of a defensive nature and characterised by the phenomena of inflammation. The parasite first gives rise to injury or destruction of the tissues: this is followed by exudation of leucocytes which remove the damaged tissue and, if possible, the parasite, and this again by proliferation of the surrounding tissue which repairs the injury. A tuberculous nodule, for instance, is formed by centripetal proliferation of the surrounding tissue—that is, by proliferation taking place towards the irritant. It is far otherwise in carcinoma; here we have proliferation taking place in a centrifugal direction away from the supposed parasite and, instead of a defensive reaction, there is produced an ever-increasing amount of epithelial tissue in which the parasite can grow and multiply. In fact, the organism would seem to welcome the parasite instead of repelling it. This is so opposed to the accepted laws of parasitism that one may be excused for doubting its possibility. Some have supposed that the parasite acts on the cell in somewhat the same way as a sperm cell acts on a germ cell and thus induces proliferation. This seems to me a very far-fetched and unwarrantable supposition and is negatived by the fact that, as regards the parasites that have been described, the parasite-containing cell does not undergo division. To make sure of this fact, which was mentioned by Ruffer and Plimmer,[21] I recently wrote to Mr. Plimmer and he tells me that the cells

[18] Annales de l'Institut Pasteur, February, 1901.
[19] Relation between Cause and Effect in Disease, Brit. Med. Jour., vol. ii., 1900.
[20] Brit. Med. Jour., vol. i., 1901.
[21] Journal of Pathology and Bacteriology, vol. i.

which contain the inclusion do not divide, but, as a rule, begin to show degenerative changes similar to those in phagocytic cells in other diseases when the cells cannot conquer. These degenerative changes would, however, seem to be very slight in amount.

As regards the relation between the supposed parasite and the cell, we have to consider how the parasite, in the case of intracellular parasites, enters the cell. Is the entrance active on the part of the parasite or passive as in phagocytosis? or does the parasite fulfil its whole cycle within the cell? The last supposition is impossible, for, since the containing cell does not divide, the parasite would not have any opportunity of continuing its existence when the cell had degenerated. If the entrance is an active process on the part of the parasite it is difficult to understand how a parasite which causes destruction of the cell into which it enters can cause active proliferation of the surrounding cells. If, on the other hand, it is a phagocytic action on the part of the cell, how is it that the youngest forms of parasite which are described are either within or close to the nucleus? The abnormal increase in the phagocytic properties of the epithelial cells is left wholly unexplained. Mr. Plimmer tells me that there is not sufficient evidence to show whether the entrance of the parasite into the cell is active or passive.

An example of true defensive reaction is seen in catarrhal inflammation. In this the affected epithelial cells degenerate and are cast off, those that are left proliferating to take their place. In carcinoma, however, the affected cells are not cast off, but penetrate into the deeper tissues; it is, therefore, the exact opposite of a defensive reaction. If, therefore, carcinoma be due to a parasite, we have the curious phenomenon of the organism not attempting in any way to defend itself against an injurious parasite. This would be a unique occurrence in the processes of disease. It might be suggested that the parasites spread into the connective tissue and are followed by the proliferating epithelial cells. This is highly improbable and implies a mechanism of defence which is entirely unknown and yet there would seem to be no reason why the ordinary means of defence should not be available. Another objection to the theory is the fact that we are not told whether each species of carcinoma and sarcoma has its own parasite, or whether they are all due to the same parasite. The different species of carcinoma are usually so distinct that it is difficult to suppose that they are due to the same parasite. If this were the case we should expect to find the metastatic growths differing according to the kind of epithelium in which they occur. For instance, in the case of a squamous-celled carcinoma with secondary deposits in the liver we should expect to find the latter composed of spheroidal cells derived, by the action of the parasite, from the liver cells, but this is a state of things that we do not meet with. Moreover, if sarcoma and carcinoma are, as Plimmer and Gaylord suggest, due to the same parasite, how is it that we do not meet with a primary carcinoma giving rise to secondary sarcomatous deposits? If, on the other hand, each species has its own parasite, how are we to account for those tumours which show intermediate forms between the better marked species? In columnar-celled carcinoma of the uterus we occasionally find areas of squamous cells lying among and evidently formed from the columnar cells. There are also the highly complicated compound sarcomata which it would be impossible to explain on the supposition that each kind of sarcoma has its own parasite. Again, if each kind of tumour has its own parasite, we must suppose a series of parasites each of which are only capable of acting upon one kind of cell. It would therefore be necessary to suppose different carcinoma parasites for each gland in the body and we should also have to suppose a different series of parasites for each species of animal. Either of these suppositions, therefore, lands us in inextricable difficulties.

The parasitic theory, then, will not explain the production and growth of the primary tumour, nor will it explain the different species and the manner in which they breed true. Will it explain metastasis? Here, at all events, this theory ought to be capable of affording an explanation, since it is this feature which has afforded the chief ground on which the theory is based. In reality, however, instead of assisting the explanation of this feature, it increases the difficulty.

A metastatic growth cannot be due simply to the presence of a parasite for, if it were, we could not have a metastatic carcinoma in a position devoid of epithelium. We must therefore conclude that, besides the parasite, at least one epithelial cell must be transferred from the primary growth to form the mother cell of the secondary deposit, but this cell cannot be the cell in which the parasite is lodged, since the parasite-containing cells, at least in the case of the described parasites, do not proliferate but undergo degeneration. Therefore we must imagine a parasite and a cell independently conveyed to the site of the metastatic growth. Again, the adoption of this theory will not explain the situation of the primary growth. It will not explain, for instance, the frequency of malignant disease in the female organs of generation or the rarity of it in situations in which we should expect it to be frequent, such as the lungs and small intestine. Nor does it explain why the acini of the breast are more frequently affected than the ducts. In the case of sarcoma it is even more unsatisfactory, since, except in the rare cases of sarcoma starting in a wound, we must suppose the parasites conveyed to the seat of the tumour by the blood, and if this were the case we should expect multiple primary growths to be common.

Carcinoma differs markedly from parasitic diseases in the almost absolute natural immunity possessed by children. To no parasitic disease is there such an absolute natural immunity at any particular period of life as there is to carcinoma during the first two decades. Brault[22] finds an objection to this theory in the fact that in malignant tumours the cells contain large quantities of glycogen, while in the cells resulting from parasitic irritation there is none. In the coccidium nodules in a rabbit's liver the glycogen is situated, not in the epithelial cells, but in the parasites themselves. Another important objection is the fact that it cannot by any possibility explain the origin of congenital sarcomata, and especially those tumours which I have called blastomata. In the case of tumours associated with the presence of bilharzia ova we find that the ova are not the immediate cause of the tumour, but are only remote causes since they are found, not in the tumour itself, but in the neighbourhood. Finally, there is the important fact that all the phenomena of malignant and other tumours can be explained on other grounds—namely, on the view that the cells take on an independent mode of growth and behave as parasites themselves.

We thus see that while the grounds on which this theory is based are inadequate the theory itself will not explain any of the phenomena of malignant disease. We are therefore justified in saying that malignant growths are not to be explained on the assumption of special extrinsic causal factors. It is equally impossible to explain the occurrence of tissue tumours on the parasitic theory, although, as I have shown, if these tumours are due to extrinsic causal factors, these factors must necessarily be of the nature of parasites. But it will be said that extrinsic factors are not necessary to explain simple tumours; to this I answer that there is no justification for separating the tissue tumours from the cell tumours so as to say that, while the one are due to intrinsic factors alone, extrinsic factors are necessary to explain the others. The common factor, therefore, in tumour formation is not to be found in the extrinsic causal agents.

INTRINSIC CAUSES.

We have next to consider the intrinsic factors concerned in the causation of tumours, that is, the factors which arise within the organism at the seat of origin of the tumour. Thiersch, in 1865, called attention to the fact that in old age the connective tissue of the body undergoes atrophy and in consequence becomes unable to withstand the ingrowth of the more active cutaneous epithelium, and to this fact he attributed the origin of cutaneous carcinoma. Cohnheim, who attempted to find the common factor in tumour formation in the rudiment from which the tumour springs, made use of this observation of Thiersch to illustrate his views on the nature of malignancy. According to this author malignancy depends, not on any structural peculiarity of the tumour itself, but on a diminution of the physiological resistance of the surrounding tissues which enables the tumour cells to penetrate into and to destroy them. This diminution of the physiological resistance might be caused by an antecedent inflammatory condition or by the atrophy consequent on old age, or it might be inherited. Woodhead,[23] in his Morton Lecture delivered before this College in 1892,

[22] Loc. cit.
[23] THE LANCET, May 7th, 1892, p. 1018.

showed sections of the tongue at different ages in confirmation of Thiersch's observations. These showed that the subepithelial connective tissue, which in the young is relatively abundant, continually decreases with the increase of age, while the overlying epithelium continues active, so that in old age there is a tendency for the epithelium to send down processes into the subjacent tissues.

We come now to the consideration of Ribbert's[24] theory. This author holds that the tissues in the normal condition are prevented from over-stepping their natural bounds by the action of the "tissue tension" of the part; if this tissue tension is diminished proliferation is set free and a tumour results. This tissue tension represents the sum of the physiological forces acting on the part and is equivalent to the physiological resistance of Cohnheim. According to Ribbert a tumour arises from a collection of cells or a piece of tissue which has become separated from its organic connexion with the surrounding parts and, in consequence, is not subject to the restraining action of the influence of the surrounding tissues; the rudiment is therefore free to proliferate and this proliferation results in the formation of a tumour. The separation of the rudiment may be effected by three means: (1) it may be separated by irregularities in the course of development; (2) it may be the result of trauma; and (3) it may be caused by inflammatory changes in the surrounding tissues. For instance, he explains the origin of carcinoma of the skin as follows. The earliest change is of an inflammatory nature, resulting in a new formation of connective tissue between the epithelium and the cutis vera; this new-formed tissue grows into the superjacent epithelium and isolates either single cells or groups of cells; these cells, being freed from their organic connexion with the rest of the epithelium, are released from the tissue tension of the part and therefore undergo proliferation, penetrating into the subjacent connective tissue and thus giving rise to a carcinoma. The new-formed tissue may be abundant or minimal in amount, but it is never absent. This theory of the causation of tumours is undoubtedly the most satisfactory one that we have yet considered and it possesses the merit of endeavouring to find a cause which shall satisfy the requirements of logic. It is available for the explanation of all tumours and of other conditions such as hypertrophy. I do not agree with Ribbert in assigning so great a part to the connective tissue in tumour causation. The difficulty of deciding this point is great because it is seldom that one examines a carcinoma in a sufficiently early stage, and it is impossible in many cases to say whether the changes observed in any particular specimen would have given rise to a carcinoma if it had been allowed to continue growing.

A theory which is closely allied to that of Ribbert is that which ascribes the origin of a tumour to the loss of nervous control over the cells of which it is composed. The tumour, not being under the control of the central nervous system, grows in an irregular and purposeless manner. This theory was supported by Marshall[25] in his Morton Lecture. The difference between this theory and that of Ribbert lies in the fact that, while Ribbert ascribes the origin of a tumour to the separation of its rudiment from the organic connexion with the surrounding parts, this theory ascribes it to the loss of nervous control. There is no proof that this loss of nervous control can give rise to tumour formation, but, on the contrary, there is ample evidence that it does not necessarily do so, as, for example, in skin-grafting. Beatson[26] suggests that carcinoma of the breast is due, in some way or other, to the influence of the ovaries. There is no evidence in favour of this idea except the fact that certain cases of carcinoma of the breast improve when the ovaries are removed. This fact, however, is not sufficient to form a groundwork of a theory of the origin of carcinoma, since the removal of the ovaries causes profound alterations in the metabolism of the body at large.

ADAMI'S THEORY.

Recently Professor Adami[27] of Montreal delivered an address before the Yale University Medical Alumni Association in which he made known his views on the causation of cancerous and other new growths. It is difficult to give in a few words a *résumé* of this most interesting address and I must refer you for the details to the original. Professor Adami agrees, to a certain extent, with Ribbert that the initiation of a tumour is due to the alteration of the tissue tension, but he also admits the action of prolonged stimulation if at the same time the cells are in some way or other prevented from performing their specific function. Proliferation once started will continue as long as the primary modification of physical relationships or the primary stimulus continues to act, if there is adequate nutriment, and if the tensions acting on the cells do not become excessive. The longer the cells are diverted from the performance of their special functions to proliferative activity the greater the tendency for them to acquire permanently the "habit of growth"—that is, the power of proliferation independent of extrinsic conditions, and we thus obtain the purposeless cell-growth characteristic of a tumour.

Now, although I agree with Professor Adami's views to a large extent, yet there are a few points in his reasoning which, to my mind, are not quite satisfactory. In the first place, he states that the controlling agency in the higher katabolic activities of the cell, both functional and proliferative, is the nucleus. In this statement he altogether ignores the centrosome which, as we have seen, plays the leading part in the division of the nucleus and the cell. In the next place, he states that proliferation and the active performance of specific function are to a large extent incompatible owing to the different structure of the nucleus under these two conditions, and he argues from this that proliferation can only take place when the cell is unable fully to utilise the assimilated material in the performance of its specific function. I think, however, that in most cases we are equally justified, if not far more justified, in saying that the cell does not perform its function because it is undergoing division. He does not give any reason for supposing that the cessation of function precedes division, and it certainly seems more natural to suppose that the reverse is really the case and that the cell ceases to functionate because it is dividing. It is also impossible in many cases to draw a sharp distinction between the performance of function and proliferation, since in some cases the two are identical. Another defect in this theory is the fact that it does not explain the penetration of the epithelial cells into the surrounding tissues which constitutes the essential lesion in carcinoma. Nowhere in his address does Professor Adami refer to this penetration, but he seems to regard proliferation as the characteristic feature of carcinoma. We may, however, have any amount of cell proliferation without carcinoma, and, indeed, until penetration is present, we cannot be certain that we are dealing with carcinoma at all. Nothing that merely explains the presence of proliferation without at the same time explaining penetration can be satisfactory in affording an explanation of carcinoma.

[24] Allgemeine Pathologie, 1901.
[25] THE LANCET, Nov. 23rd, 1889. p. 1045.
[26] Brit. Med. Jour., vol. i., 1899.
[27] Loc. cit.

ON CLEFT PALATE.

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THE subject of this paper is the conditions of imperfect development of the septum between the mouth and nasopharynx which are comprised under the term "cleft palate." I will attempt to place the treatment of this deformity on a scientific basis and to do so it will be necessary to consider in the first instance the factors that determine the form of the bones of the face.

The functions of the bones of the face are four in number: (1) to surround the passages by which air alone is transmitted to the lungs; (2) to sustain the strain exerted by the muscles of mastication and to transmit and diffuse the resistance offered by the crushed food in the forcible approximation of the jaws during its attrition by the teeth; (3) to surround and protect the eyes; and (4) to accommodate the tongue.

Experiments are made by nature on all sides showing the influence which the exercise of these several functions exerts upon the skeleton, all capable of accurate measurement and definition. If an eye be removed early in life the degree of development of the orbital space which contained it, and of the soft parts which surrounded it, is after

several years have elapsed less than is that which exists on the opposite side. If the permanent teeth are lost in young life the alveoli waste and the bones along which force is distributed either as pressure or strain become progressively thinner. The rough, prominent surfaces to which the tendinous insertions of muscles are normally attached do not exist. This is seen most conspicuously in the case of the angle of the lower jaw which no longer presents the vertical ridges on its outer surface or the eversion of its margin characteristic of the normal vigorous state, but is rounded and smooth, a considerably larger angle being included between the posterior margin of the ramus and the lower border of its body. Precisely similar changes take place in the jaw of the edentulous old subject. The lower jaw is moulded upon the upper and anything that interferes with the free movement of these bones on one another impairs to a corresponding extent the development of the former.

FIG. 1.

Showing the condition of a girl, aged 12 years, operated upon in 1893. The joint was destroyed when she was 18 months old, and at the operation all trace of it had disappeared completely.

FIG. 2.

Representing the result of this operation on a boy, aged nine years, in 1892. The jaw was fused to the temporal bone, no evidence of the original joint being visible.

Figs. 1, 2, 3, 4, and 5 represent cases of ankylosis of the temporo-maxillary articulation which have been successfully operated upon, the ankylosed joint having been freely excised. They are introduced here as illustrating very well the fact that in them the degree of imperfection of the lower jaw varies directly with the duration of the ankylosis and inversely with the age of the child at the onset of the destruction of the joint. In these cases this factor alone—namely, the movements of the jaws and teeth on one another—was in abeyance, since the necessarily very efficient naso-pharyngeal respiration due to the complete apposition of the jaws had developed the naso-pharynx and the surrounding bones as completely as possible in a manner which will now be considered.

I need hardly repeat here that the eruption of all the teeth is necessary to the perfect development of the jaws. The pressure exerted by the tongue is an important factor in determining the form of the lower jaw. This is illustrated very well by the disproportionate size of the jaw, which is presented when the tongue is abnormally large, often resulting in an "underhung bite" or in "open bite," conditions very familiar to the dental surgeon. (See Figs. 6, 7, and 8.) I intend to discuss in detail in a subsequent communication the causation and treatment of these conditions.

I will pass on to study the mechanical influence which the passage of air through the naso-pharynx exerts upon its development and upon that of all the bones of the face, and

FIG. 3.

A boy, aged four years, who was operated upon in 1894. The joint had been disorganised three years before.

FIG. 4.

A girl, aged 10 years, who was operated upon in 1895. The joint was destroyed when the child was seven years old.

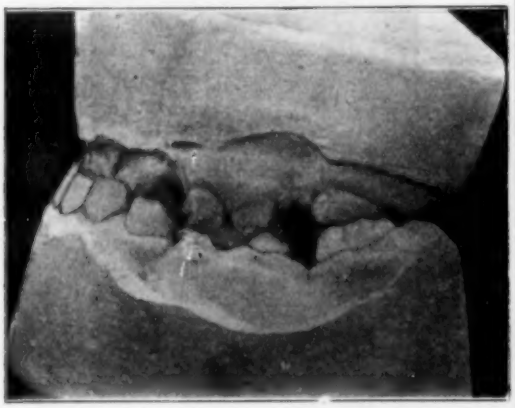
I think it will be quite clear that, under ordinary circumstances, its influence is paramount, being quite out of all proportion to that exerted by the factors to which I have already referred. The chief function of the naso-pharynx is to transmit air into the lungs in order that the sensitive

FIG. 5.

An adult whose joint had been disorganised in infancy. The operation was performed in November, 1895, and the illustration represents the condition of the patient in April, 1896. In 1902 her joint was working excellently.

surface of its mucous covering may become affected by substances contained in it. In other words, this part of the body is constructed essentially for the purpose of smell, and in the several groups of animals the degree of its development varies with the importance of the sense of smell to each. The upper portion of the nasal cavities is used for the ramifications of the olfactory nerve, and the

FIG. 6.



A specimen of "underhung bite."

current of air is distributed especially over this area by the act of sniffing. During the normal process of respiration the mouth is kept shut, the upper lip covering the upper incisor teeth entirely and projecting below them. The breathing air passes chiefly through the lower meatus, while there is hardly any current in the upper part of the space. It is therefore obvious that anything interfering sufficiently with the calibre of the lower part of the nasal cavities impairs their capacity for transmitting air to an extent to make it necessary to keep the mouth open while breathing. When this is done air enters so freely through the larger and more direct channel formed by the mouth that it ceases to pass through the nose either during inspiration or expiration; the most important function of the part is lost, and the forces which act upon it normally and develop it are in abeyance. Even after air has ceased to pass through the nose in inspiration it does so during the expiratory process of vocalisation, though in a diminishing degree. Therefore the so-called nasal intonation does not develop as early as one would imagine in association with much loss of nasal inspiration. It is seen at once from an

FIG. 7.

A radiograph of a case of "open bite."

examination of Fig. 9, which represents a vertical transverse section through the nasal cavities and surrounding structures in the normal subject, that the calibre of the lower part of the nasal cavities, or of their respiratory section, if I may so describe it, is enormously encroached upon by any ascent of the hard palate above the normal level, and that the air-transmitting capacity of the naso-pharynx varies inversely

FIG. 8.

Showing the unusually large condition of the tongue present in the patient whose radiogram is illustrated in Fig. 7. The structure of the tongue was quite normal.

as the height of the palate; also that the calibre of the entire nasal space is very much affected by the slightest variation in the interval between the septum and the structures forming the outer wall of the space, such as is necessarily associated with any cramping of the alveolar arch laterally.

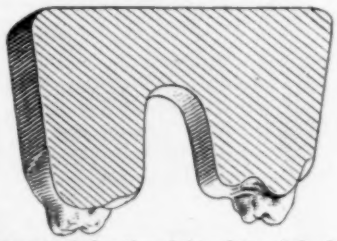
It is well known how exceedingly common are such cases of imperfect development of the nasal cavity, of which Fig. 10 is an excellent example. It has often been observed that if such diseases of the nose, ear, larynx, and even lungs as are directly or indirectly consequent upon some imperfect development of the naso-pharynx could be excluded a not unimportant section of their consideration and treatment would have to be deleted from works on these subjects.

FIG. 9.

A vertical transverse section through the nasal cavities and adjacent structures.

Indeed, if it were not for popular ignorance of the mode in which respiration should be performed and for the accidents associated with civilisation which often render it difficult to apply the knowledge even if possessed, the nose and throat surgeon would have practically no reason whatever to exist. He is merely a product and an evidence of degeneration, and this fact he too often fails to appreciate. It behoves us, therefore, to consider very carefully the factors which are responsible for these conditions of imperfect development, in order that by early and prompt treatment we may save our patients from innumerable complications, some of which may not at first sight seem to depend directly upon it. I believe that they result solely from the fact that for some

FIG. 10.



A transverse vertical section of the palate and alveolus, life size, of an adult with an imperfectly developed naso-pharynx. The model was made by Mr. Edgar Ashby.

reason or other the mechanical factor that affects the development of the naso-pharynx is in abeyance, and that in consequence this space does not enlarge as it should.

I have shown that the large majority of the conditions known to dental surgeons as "superior protrusion" result from deficient development of the naso-pharynx (see Figs. 11 and 11A).

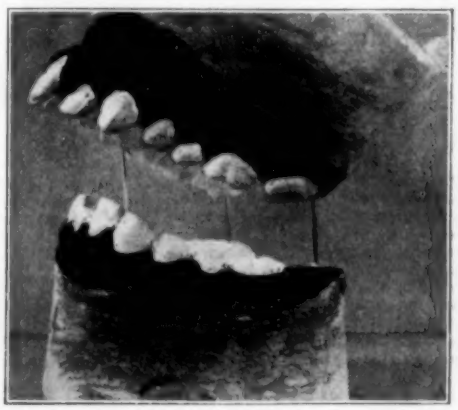
Of course, it is to be borne in mind that some children inherit a degree of development which is less than the normal. An interesting and ready means is afforded, by the study of such imperfectly developed conditions, of determining how quickly an acquired deformity in the parent may arise in the offspring. Personally, I believe that the transmission of this particular condition is very direct and rapid. The absence of this developmental factor is brought about by an infection of the mucous membrane of the nose, of which the most common type is a cold in the head. In the young subject the mucous membrane of the nasal cavities is peculiarly liable to inflammations, being usually the area of least resistance, and this inability to resist varies inversely with the respiratory capacity of the individual. In those with a subnormal respiratory capacity the naso-pharynx becomes the seat of recurring infections or of a chronic

FIG. 11.

A profile of a case of "superior protrusion" resulting from imperfect development of the naso-pharynx.

infection. The inflammatory swelling of the mucous membrane and the presence of mucus interfere sufficiently with the entry of air during inspiration to make it necessary to breathe through the mouth. Take some of those children who suffer from these attacks, and let them be observed carefully. As they stand they assume the "symmetrical posture of rest," which is shown very well in Figs. 12, 13, and 14. The chest is flattened in front, depressed, and the abdomen

FIG. 11A.



A profile of a similar case with the jaws apart.

is thrown forward; the dorsal spine is flexed, the shoulders project forwards, and the lower angles of the scapulæ are prominent on the back of the chest. To this condition the term "dorsal excurvation" is applied by the profession and that of "round shoulders" by the public. If the child is standing at rest on one leg the trunk assumes the position which I have described as the "asymmetrical resting posture." This, from its habitual assumption, may have become fixed and later exaggerated By the profession this is described

as) "scoliosis" or "lateral curvature," while the public, being most struck with the prominence of the right scapula, regard it as "growing out of the shoulder." It may be fixed or exaggerated if the period during which it has been assumed is of sufficiently long duration. Respiration is

FIG. 12.

Symmetrical posture of rest.

superficial, rapid, and entirely diaphragmatic. A tape encircling the chest at the level of the nipple shows probably no variation whatever during ordinary inspiration and expiration. If the patient is told to breathe as deeply as possible the measurement of the chest is increased to a varying degree above that point, but it returns to it in expiration, the normal position being that of almost complete expiration. The skin of the chest is opaque and white, and is marked by large, conspicuous, dark-coloured veins in which the circulation appears stagnant. On looking at the back the skin is seen to be covered over a varying area by a fine down which extends beyond the middle line and becomes continuous above with the hair of the scalp. The margin of the hairy scalp is equally ill-defined in front, encroaching often to a considerable extent on the forehead and on the cheeks in front of the ears. Again, the feet are retained usually in a position of abduction, including between their inner margins a considerable angle. This position of the feet may after a time become fixed and later exaggerated. This I showed to be merely the habitual assumption by the foot of the "position of rest" or of abduction, but by the profession and the public it is spoken of as "flat foot." The condition of knock-knee, or a diminution of the normal external femoro-tibial angle, is not unfrequently seen in a slight degree, due to the habitual assumption of the resting erect posture, whether symmetrical or asymmetrical, but especially the latter. During the time the position is being assumed most of the superjacent weight falls outside the knee-joint, so that the outer part of the epiphysial line is exposed constantly to a much greater pressure than that sustained by the inner segment. In consequence, a correspondingly smaller amount of bone is formed by the outer part than by the inner, the femoro-tibial angle decreasing proportionately. This general law I formulated in the following words: "The several parts of a growing line form bone at a rate inversely proportionate to the pressure which they transmit." And one might add to this that these conditions are exaggerated in proportion as the nutrition of the osseous system is impaired, as, for instance, in rickets and the excessive growth which ensues in the skeleton in prolonged recumbency. The head is thrown forward (see Figs. 12 and 14) because of the flexion of the dorsal spine which is of necessity associated with expiration, flexion and extension of the spinal column being, as I explained, the most conspicuous of the thoracic respiratory processes, and produced chiefly by the action of the intercostal muscles, the internal being the most powerful but indirect extensors of the dorsal spine, and the external the most powerful flexors. They exert

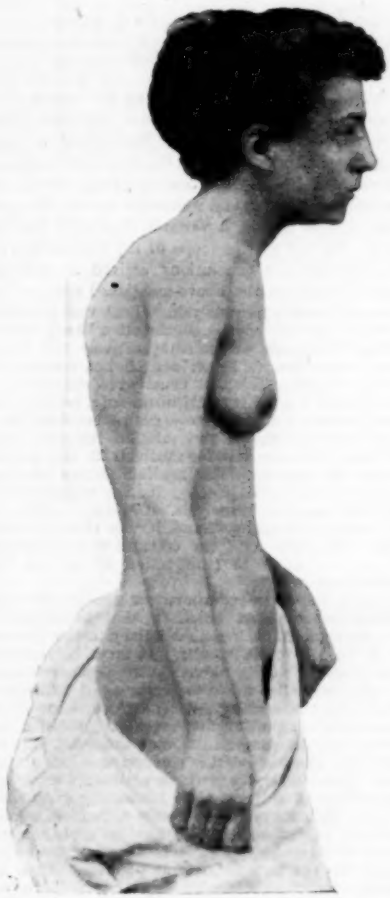
FIG. 13.

Symmetrical posture of rest.

their action upon the vertebræ through the ribs. Those muscles are associated in their action with such portions of the internal and external abdominal oblique the fibres of which continue their directions. The mouth is small in proportion to the deficiency in the development of the jaws

and naso-pharynx. It is kept open, and more or less of the upper incisor teeth are seen. In some cases even the gum may be exposed. The nose immediately above the lower lateral cartilages is compressed laterally, and little or no movement can be observed in the narrow slit-like anterior nares during respiration. The nose is frequently tip-tilted, so that its under-surface looks somewhat forward. On either side of

FIG. 14.



Symmetrical posture of rest

the nose the face below the orbit is hollowed, the normal rounded prominence of the part being wanting. Owing to the interference with the development of the septum, consequent on the imperfect descent of the palate, deflections of this structure and the formation of "spurs" upon it are frequently very marked features, and with their immediate neighbour, the inferior turbinate bone, may call for surgical treatment in some instances with the greatest possible benefit to those adult patients whose nasal breathing space is so rendered very much less than normal and correspondingly insufficient. The width of the face forming the cheeks is less than normal, the malars being flattened and the whole face being wedge-shaped. These changes are particularly noticeable in Fig. 15. Looking into the mouth you notice that the alveolar arch of the upper jaw is compressed laterally and that the palate is very high along its central part. Indeed, the height of the palate bears a direct proportion to the changes just mentioned in the nose and face, or, in other words, the development of the nasal cavities varies inversely with the height of the palate and with the breadth of the alveolar arch. The lateral diminution in the breadth of the alveolar arch of the upper jaw results in its elongation in an antero-posterior direction, in which case the upper incisors project forwards considerably beyond the lower, constituting the "superior protrusion" of dentistry. Or this forward protrusion may be obviated by a corresponding amount of irregularity of the teeth. If a large number of models of cases of superior protrusion be examined it will be found that with very few exceptions the condition is consequent on imperfect development of the naso-pharynx (see Figs. 10 and 11). The width of the alveolar arch of the lower jaws bears a direct relation to that of the upper, upon which it is moulded in its development. The faucial tonsils are probably large, as is also the pharyngeal tonsil. There may be a variable amount of deafness owing to imperfect aeration of the middle-ear, to obstruction to the exit of mucus from it, or to interference with the function of the Eustachian tube. The deficiency in vitality consequent on, and proportionate to, the degree of imperfection of aeration of the blood in the lungs results in the child catching cold readily. The infection starts in the naso-pharynx and may extend to the larynx, trachea, and bronchial tubes. There is often a chronic snuffly cold in the head, with perhaps some irritation of the anterior nares and not infrequently of the upper lip also. The muscles of such children are usually soft and flaccid and their degree of intelligence is very variable. Sometimes they are considered dull and stupid, while others, on the contrary, are said to be very intelligent. This, I take it, varies with the state of the

FIG. 15

Representing a case of imperfect development of the naso-pharynx.

nutrition of the brain and with the variety of the demands made upon it. If the child uses up its limited brain power in muscular exertion its capacity to make intellectual effort is small, while if the same energy is employed intellectually under pressure that to spare for the muscles is correspondingly decreased. It also depends to some extent on their

greater association with people older than themselves owing to their dislike to engage in active games.

Now, it is clear that every child who is suffering in this manner does not exhibit all these evidences of a purely mechanical relationship to its surroundings described here, but they all show that the process of aeration of the blood is carried out very imperfectly, and in consequence the blood is not oxygenated in a satisfactory manner. Respiration is diaphragmatic, while thoracic respiration is completely neglected. Diaphragmatic respiration is a more perfect reflex than thoracic respiration and requires much less effort for its performance. For this reason it is, as is apparent to all, employed alone, to the practical exclusion of thoracic breathing by feeble subjects, both young and old. Because of a deficient supply of oxygen the child therefore has not enough energy to carry on the work of the muscles, brain, and other tissues of the body, or to protect itself from the power that organisms have of obtaining a foothold on tissues whose vitality is lowered by injury of some sort. In the young subject the mucous membrane of the nasal cavity is that which, from local depreciation by cold, becomes invaded most readily by organisms which, having secured themselves there, manifest their occupation by symptoms which are popularly comprised under the term "cold in the head." As the result of their presence the nasal cavity, with those cavities which communicate with it, becomes more or less completely blocked by the swelling of a very vascular mucous membrane and by the inflammatory secretion poured out from its surface. The lymphatic tissues in the vicinity become secondarily inflamed. These exist as irregular masses in the wall of the upper part of the pharynx and are described as the "pharyngeal tonsil." Whenever they have become more or less chronically enlarged, in consequence of the infective process in the mucous membrane with which they are necessarily associated, they are dignified by the dread and unmeaning name of "adenoids." Surgeons under the influence of the suggestion of Wilhelm Meyer have considered that the secondary infection of the so-called pharyngeal tonsil is the primary cause of the obstruction of the naso-pharynx, and they have hoped to cure their patients by cutting away a varying proportion of this substance. It is quite apparent that the removal of this lymphatic tissue cannot alone restore to the naso-pharynx the mechanical factor which is the active agent in its development, since it does not increase the respiratory power of the individual and consequently does not improve the resistance of the naso-pharynx to infection. If, however, this operation is associated with such measures as bring about an improvement in the respiratory capacity and forcible ventilation of the naso-pharynx, such a procedure may frequently be of considerable service. What a misfortune it was when this name of adenoids was applied to this collection of inflamed lymphatic tissue subsequent generations will recognise with amazement; but for the time, at all events, it has served to popularise an operation which everyone who has a ring knife or even a long finger-nail believes himself capable of performing sufficiently skilfully. It is well known how this operation has been modified by time. At first a small piece was picked out by biting forceps, without an anæsthetic, this process being repeated at intervals as frequently as the patience and the income of the sufferers allowed. For some considerable time now the removal has been effected at a single sitting under an anæsthetic.

The faucial tonsil, whose lymphatics are closely associated with those of neighbouring parts and whose resisting capacity is depreciated equally with that of the naso-pharynx, not infrequently becomes inflamed in consequence of septic absorption, as may also the lymphatic glands in the neck which receive the lymph-supply from the masses above them. These enlarged cervical glands, the vitality of which is depreciated by this septic process, readily become colonised by tuberculous organisms which are supplied in abundance in food and air. If a vigorous child becomes affected by a cold in the head he never rests till he has cured himself by the forcible and free ventilation of the naso-pharynx by powerful inspiratory and expiratory efforts. In other words, he blows his nose and snuffles vigorously till he has restored the inflamed mucous membrane to its normal condition. The feeble child does not do this, but is satisfied to obtain the small portion of oxygen which he requires by keeping the mouth open. The organisms continue to thrive under these circumstances which are most favourable to them, as opposed to the individual; and the conditions dependent on their presence continue to increase, depreciating still more the vitality of the sufferer.

(To be continued.)

A NOTE ON THE METHODS OF CONDUCTING HÆMOLYTIC EXPERIMENTS.

BY G. F. PETRIE, M.B., CH.B. ABERD.,
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I HAVE had occasion recently during the course of work bearing upon the products of the bacillus pyocyaneus, carried out at the suggestion of Dr. Allan Macfadyen, to make a number of experiments relating to the hæmolysins elaborated in the course of its growth. These have been shown, first of all by Bulloch and Hunter, and somewhat later by Weingeroff, to exist in cultures filtered a variable time after the date of inoculation. So far as the scope of my work in this direction has extended, the conclusions arrived at coincide in the main with those of the above-mentioned authors. Thus the resistance of the pyocyanolysin to heat was found in my experiments to be very great. On the other hand, hæmolysis seemed to go on equally well at comparatively low temperatures—e.g., exposure at 13° F. for 19 hours without preliminary incubation at 37° C. as usually recommended. The fluid chiefly used was a Berkefeld filtrate of a culture derived from the laboratory stock culture grown between 20° and 25° C. for four months in the solution recommended by Emmerich and Löw as a suitable medium for the growth of the bacillus pyocyaneus. The medium before inoculation was tested on the blood selected for the experiments and was found to cause no hæmolysis. Ordinary peptone broth cultures were also employed, and it was observed that no hæmolysis took place until the cultures were incubated for at least a week at 37° C. (this refers, of course, to the filtered cultures).

In carrying out these experiments a considerable amount of evidence accumulated to show that hæmolytic tests present a wide margin of possible fallacy in the conclusions arrived at from positive results. It must be remembered that hæmolysis is not a phenomenon dependent only on specific complex bodies found in cultures of various micro-organisms. On the contrary, it is, of course, well known that extremely simple agents, such as distilled water, solutions of certain simple salts, &c., easily bring it about, and that the reaction of the medium has an important influence. The complexity of the constituents entering into the composition of cultures after bacterial growth has gone on for some time makes it extremely difficult to appreciate the exact rôle played by each of them in a phenomenon of the nature of hæmolysis, and it is therefore important to complicate the reaction as little as possible. With a view to lessening the risks of misinterpreting positive results it seems preferable to avoid, as far as possible, the use of preservative reagents, especially in cases where a comparative estimate is required of the hæmolysis of several kinds of blood. It is significant that each of the constituents of Ehrlich's reagent—carbolic acid, glycerine, and distilled water—is capable of hæmolysing red corpuscles. I have found that in the proportion recommended—viz., 5 per cent. of the solution to be tested (in this experiment 5 per cent. in isotonic solution)—50 per cent. of the resulting fluid added to an emulsion of blood in isotonic solution caused well-marked hæmolysis and 20 per cent. distinct hæmolysis of rabbits' red corpuscles. In cases in which the lysin is destroyed by heat—e.g., the staphylolysin—a simple control test is provided, but it is otherwise with hæmolysins, such as the pyocyanolysin and typholysin, which seem to possess very great heat-resisting powers. Then, again, apart from the composition of the medium in which the corpuscles are immersed, the condition of the cells themselves is a factor which must be taken into account in assessing the value of the results obtained in hæmolytic experiments. Defibrinated blood, if kept even at a fairly low temperature, is liable to undergo autolysis, and short of this the permeability of the red

corpuscles is undoubtedly altered. Thus I have found that defibrinated rabbits' blood, if kept for a day or two, showed hæmolysis after 19 hours at 13° C. in a solution which was isotonic for the same blood in a fresh condition. Stewart's results, recently published, furnish a corroborative instance. "There is," he states, "a noteworthy distinction between the perfectly fresh corpuscles and corpuscles which have stood some time in the length of the period of resistance to the entrance of NH_4Cl, which is much greater for fresh than for stale corpuscles." Other reasons for discarding the use of defibrinated blood are to be found in the chances of bacterial contamination, and the difficulty of obtaining fresh defibrinated blood when required. I accordingly use blood obtained fresh from an ear-vein. It was found, however, that if no precautions were observed to prevent clotting the control tubes containing isotonic salt solution showed at the end of 19 hours distinct hæmolysis. This autolysis may be attributed in great probability to the fibrin carrying down the proteolytic enzyme of the blood, which in some way influences the permeability of the stroma of the cells. To obviate this a solution was made up consisting of 0·1 per cent. sodium oxalate and 0·85 per cent. sodium chloride. The blood on escaping is at once thoroughly mixed with this solution. This procedure proved quite effectual in preventing autolysis of the red corpuscles. Microscopical examination of a hanging drop showed that, on the whole, the cells preserved their contour with comparatively little variation from the normal—slight crenation of the corpuscles proving that the fluid is, in fact, somewhat hypertonic. It is advisable that the osmotic pressure of the medium should be slightly greater rather than exactly equivalent to that of the corpuscles; the balance of osmotic pressure is then less easily disturbed by adventitious causes. It has been stated, as a matter of fact, that normal human plasma is hypertonic with respect to the red corpuscles. Another point which arises by implication from what has been already stated is the question of the time limit, which may be considered a fair one for the exposure of the blood to the hæmolytic agent. I believe that conclusions derived from experiments of a duration of over 19 or 20 hours are of uncertain value. Careful controls should be simultaneously carried out with isotonic salt solution.

So far as one has read of the methods of conducting these experiments, roughly quantitative tests, varying rather widely in the way they are carried out by different observers, appear to be used. It seems desirable that greater accuracy should be introduced into the procedure adopted, because if one wishes to investigate the comparative powers of two or more different fluids containing the same hæmolysin, or if variations in the permeability of different corpuscles be the subject of inquiry, the results are invalidated unless absolutely identical conditions have obtained during the experiments. For this reason it is necessary to add definite percentages of the hæmolytic fluid to the isotonic solution in which the corpuscles are suspended. In the same way equal amounts of blood, measured accurately in a calibrated pipette similar to those used in the various kinds of blood-estimation apparatus, should be added to each test-tube. These must be of equal diameter, in the lower part at least, so that the hæmoglobin diffused in the liquid may be estimated with greater accuracy. The spectroscope may be requisitioned in cases where a slight or doubtful hæmolysis has taken place. Complete sedimentation of the corpuscles by means of a rapidly-revolving centrifuge is important, because the hæmoglobin bands are given equally by the red cells and by the hæmoglobin after it has left the corpuscles. It is obvious, also, that the use of perfectly fresh blood in the manner described will ensure more trustworthy results for comparative purposes than if specimens of defibrinated blood of different ages be used. An advantage to be gained by instituting an accurate system of examination in hæmolytic tests is that a method conducted on these lines is easily adaptable for clinical application.

To summarise the steps briefly:—1. Use absolutely fresh unclotted blood. 2. Prepare in test-tubes of equal size known percentages of the hæmolysin in isotonic oxalate solution. 3. Add to each of the tubes exactly the same amount of blood and mix well. 4. Incubate tubes for the same length of time at 37° C. 5. Centrifugalise till all the corpuscles settle at the bottom of the tube, forming a sharp line of demarcation between the blood and the supernatant liquid. 6. In every experiment have control tubes containing isotonic salt solution alone. 7. In doubtful cases examine microscopically.

PRIMARY SARCOMA OF THE VAGINA.

BY H. MACNAUGHTON-JONES, M.D., M.A.O. Q.U.I., F.R.C.S. IREL. AND EDIN.

A CASE of primary sarcoma of the vagina is of such comparatively rare occurrence that a special allusion to one which has recently come under my care justifies my giving it prominence through the columns of THE LANCET.

I am indebted to Dr. Otto Seitz, of Professor Winckel's Universitie Frauenklinik in Munich, for a recent synopsis of the literature of the subject, which may be of interest in a condensed form.[1] Of all the cancer cases occurring in the hospitals at Berlin and Vienna some 20 per cent. were of the nature of vaginal carcinoma, and of 8287 cases of cancer in Paris only 14 had primary vaginal carcinoma. It would appear that vaginal sarcoma is still more rare. The first case was published in 1872, and up to 1899 there had been 32 cases recorded. In medium-sized growths there is a quantity of cellular tissue with spindle-shaped cells and oval nuclei, epithelial and big round cells, the nuclei differing in size and staining. The pavement epithelium is absent, the blood-vessels are normal, and the lymphatics are richly developed. In larger growths, Dr. Seitz says, the endothelium of the lymphatic glands contains spindle-shaped cells, the lumen in some cases being nearly occluded. There is a general tendency to proliferation of the endothelium. There are spindle-shaped cells with horseshoe nuclei, giant cells, and others with vacuoles in the nuclei. No oblique muscle-fibres could be discovered. In a case recorded by Professor Klein the patient was aged 56 years, the growth grew from the posterior vaginal wall, and the starting-point was the para-vaginal connective tissue. The lymphatics were dilated and they contained blood. Gebhard has recorded a case of a girl, aged 14 years. Here there were alveolar spaces lined with endothelium and endothelial proliferation. The vaginal pavement epithelium was intact and the probable origin of the growth was the same as in the last instance. Again, in Amann's case there were spindle-shaped cells due to lymphatic endothelial proliferation. Franke's patient was an old woman. The new growth occurred in the posterior vaginal wall, in the nature of a hard infiltration, and the starting-point appeared to be in the vascular endothelium. The inguinal glands were normal. In 1896 Rubeska published a case of cure of the sarcoma, and Yung reported three cases in 1899. The first was in a patient aged 50 years. For some time there had been an irregular foul-smelling discharge. The tumour, which was of the size of the fist, grew from the right side of the vagina and was enucleated. The inguinal glands at the time were normal. There was a return of the growth 11 months after, though the glands were still normal. There was a second operation, with profuse hæmorrhage. Pathologically the growth contained both spindle-shaped and giant cells in large numbers. Vaginal pavement epithelium was absent. In the second patient, aged 52 years, there had been purulent discharge from an ulcerated surface in the right vaginal wall where the growth was situated. The glands were normal. There was a rapid return of the tumour and another operation at the end of two months, and, again, three months later the tumour, which was found to be of the size of a bean, in the left vaginal wall was excised. The patient was seen for the fourth time three months after the last operation. The tumour then occupied the whole of the right wall of the vagina. It was immoveable, with an ulcerated surface. The glands were normal and the patient was still at work. The pathological features of the tumour were those of a round-celled sarcoma. In the third case, that of a woman aged 30 years, the tumour was of the size of a small apple and was pedunculated; it appears to have grown rather from the margin of the external surface of the os uteri than from the vagina. Microscopically it proved to be a small and round-celled sarcoma.

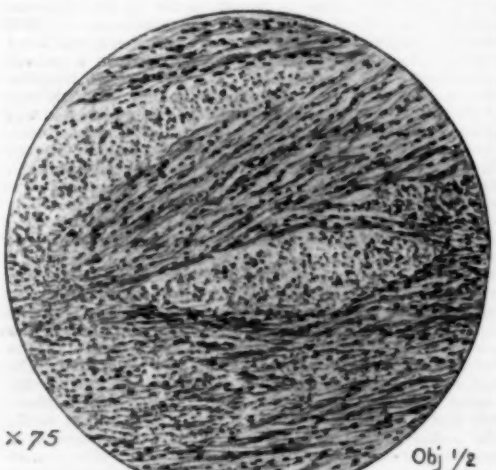
As to the seat of vaginal sarcoma in adults, it would appear that out of 25 cases it grew from the anterior wall in 15 and from the posterior in 10. The disease is more common under the age of 50 years. Of 27 patients,

[1] Uber primäres Scheidensarkom Erwachsener, Gynäkologie, No. 107, by Otto Seitz of München.

10 were under 31 years of age and six were under 40 years. In its circumscribed form it has been mistaken for myomatous or fibro-myomatous and cystic tumour of the vagina. When ulceration has occurred and the disease has extended it has been mistaken for carcinoma, tubercle, and syphilis. The prognosis is essentially bad, as the disease is generally not seen in time. According to Dr. Otto Seitz, of all known cases only three patients have recovered.

In the case which occurred in the Munich Klinik the patient, a multipara, was 41 years of age. The principal symptoms were severe hæmorrhage, accompanied by fœtid discharge and pain on micturition, attended by emaciation. The inguinal glands at either side were enlarged. There was no evidence of any heart or lung complication. The growth appeared from the middle line of the posterior wall, occupying its entire length, easily bleeding, and with a rough fissured surface; there was infiltration of the recto-vaginal septum. The growth had extended so far in the para-vaginal tissue as to make a radical operation impossible. A partial operation, by enucleation and cautery, was attempted, but two months afterwards there was a return of the growth, with partial involvement of the glands.

My own case, which I brought before the British Gynæcological Society, was that of a woman aged 44 years. She had been married for 23 years and her last pregnancy—there having been no miscarriage in the interval—was 22 years previously. She first noticed a vaginal discharge in May, 1901, and this had continued almost constantly up to the time of my seeing her in November, 1901. She had run down in her general health and had lost weight. Until I saw her she had refused to allow any examination to be made. On attempting a digital one by the vagina, I found a considerable mass filling the lower part of the canal and bleeding so freely that I had to desist. I was able, however, to trace the growth to the vaginal wall, but did not discover at the time that the cervix uteri was not involved. Indeed, my own impression was that it was a carcinomatous mass sprouting from the cervix. On anæsthetising her I found that the uterine neck was completely concealed by the ulcerating mass and that it was in no way involved, while the lateral and posterior walls of the vagina were perfectly healthy. I further found that the growth was connected by a broad base, more or less pedunculated, to the anterior wall of the vagina, not involving the external genitalia. The inguinal glands were quite free. I adopted the following plan for its removal. I surrounded the entire



Spindle-celled sarcoma of the vagina.

tumour by the thick wire rope, tightening this on it gradually. Behind this I placed the blades of a Billroth's clamp and next removed the growth with scissors. With a Paquelin's cautery I then cauterised down to the blades of the clamp, which I was now able to remove. I next made two circular incisions into the healthy vaginal wall at either side and exposed a healthy subjacent raw surface, being careful of the bladder. When all bleeding had been arrested, with a Paquelin blade I again cauterised the whole of this surface and raising the healthy vaginal mucous membrane at either side for a short distance, brought the clean edges together with Cumol gut, leaving only a single linear incision in the anterior vaginal wall. The entire operation was thoroughly aseptic. The vagina was kept tamponned with sterilised iodoform gauze and the urine was drawn off for some 10 days after operation. The wound united by primary union. Up to the present everything has been most satisfactory. I am indebted to Mr. J. H. Targett for a micro-scopical report on the specimen and for the section from which the accompanying drawing was made.

Report on the growth by Mr. J. H. TARGETT.—This growth is a spindle-celled sarcoma of the vagina. The surface is ulcerated and covered with necrotic material. Among the spindle cells there are a few larger polynuclear cells.

Harley-street, W.

ON HÆMOLYSINS PRODUCED BY CERTAIN BACTERIA.

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ALTHOUGH the production of hæmolytic substances in the cultures of certain bacteria (bacillus typhi, bacillus coli, and bacillus dysenteriæ of Kruse) was demonstrated originally by Ehrlich[1] and subsequently by Bullock and Hunter,[2] we are indebted to Neisser and Wechsberg[3] for the first complete research on the subject. The last-mentioned observers showed that the filtered as well as unfiltered broth cultures of several races of staphylococcus pyogenes aureus evinced marked hæmolytic properties on the erythrocytes of the rabbit's blood. The formation of hæmolysins was found to reach its maximum in cultures of from 10 to 15 days old, and decreased afterwards by degrees. These observations were soon confirmed and amplified—e.g., by Baiardi[4] and by Lubenau,[5] &c. It has been recently stated by E. and P. Levy[6] that hæmolysins are produced by the bacillus typhi, although this has been denied by Pane,[7] and, on the other hand, has been corroborated by Macfadyen and Rowland.[8]

On account of this difference of opinion I have been led to repeat the experiments of E. and P. Levy. At the same time I considered that it would be of value to carry out a parallel series of experiments with the colon bacillus and the dysentery bacillus of Kruse in order to determine how far they compared in their action with the typhoid bacillus with which they are so closely related. The dysentery bacillus is regarded by Kruse as most probably the cause of the European form of dysentery. It is a rather short and plump bacillus, is non-motile and does not stain by Gram's method. On all culture media its growth resembles that of the typhoid bacillus, it does not produce gas in sugar media and it does not coagulate milk. It is strongly agglutinated by the serum of patients suffering from dysentery. It need hardly be said that the European form of dysentery is in many respects quite different from the tropical form. Further particulars with regard to this interesting organism will be found in the original paper by Kruse[9] as well as in a paper by myself.[10]

As regards the technique I have followed in its general outline the well-known methods of Neisser and Wechsberg. A certain number of faintly alkaline broth flasks were prepared and inoculated with bacillus typhi, bacillus dysenteriæ, and two different races of bacillus coli, which I shall term I. and II. The cultures were incubated for varying periods—e.g., three days, five days, and longer—they were

[1] Ehrlich and Morgenroth: Berliner Klinische Wochenschrift, 189 , No. 1.
[2] Centralblatt für Bakteriologie, Band xxviii., No. 25.
[3] Zeitschrift für Hygiene, Band xxxvi., 1901.
[4] Annali d'Igiene Sperimentale, Fasciculus iii., 1901.
[5] Centralblatt für Bakteriologie, Band xxx., No. 10.
[6] Ibid.
[7] Gazzetta degli Ospedali, 1901, No. 144.
[8] Centralblatt für Bakteriologie, Band xxx., No. 20.
[9] Deutsche Medicinische Wochenschrift, No. 23, 1901.
[10] Revista di Critica Medica, No. 15, 1901.

then passed through a Berkefeld filter, and the filtrate was tested for hæmolysins. Varying quantities of the filtrates were placed in a series of test-tubes and each was made up to five cubic centimetres by the addition of salt solution (0·85 per cent.). To each tube one-twentieth of a cubic centimetre of defibrinated dog's blood was then added and the tubes were kept for two hours at 37° C., and subsequently for 12 hours in the cold room before examination. I may here state that neither human blood nor the blood of rabbits or guinea-pigs form suitable media for testing the hæmolytic properties of the typhoid bacillus. The most suitable blood is that of the dog and the same observation applies to the dysentery bacillus. Pane objects to E. and P. Levy's results on the ground that the red corpuscles of the dog part easily or spontaneously with their hæmoglobin. I cannot confirm this statement of Pane, for in all control tubes made with salt solution and dog's blood I could not detect any trace of hæmolysation.

In order to be as brief as possible, I have collected my results in the following table. The table gives only the results obtained by using 0·5 cubic centimetre doses of the filtered culture, this being as a rule the maximum amount which I used.

	Age of cultures in days.											
	3	5	7	10	12	14	15	16	18	20	25	30
Typhoid bacillus	−	−	−	+¯	+−	++	++	+	+−	+¯	−	−
Dysentery bacillus	−	−	−	−	+¯	++	++	+−	+¯	+¯	−	−
Colon bacillus I.	−	−	−	−	+¯	+¯	+¯	−	−	−	−	−
Colon bacillus II.	−	−	−	−	−	−	−	−	−	−	−	−

++ equal complete; + equals almost complete; +− equal partial; +¯ equal slight; and − equals no hæmolysation.

As will be seen from the table, the typhoid bacillus is capable of forming a hæmolysin which produces a complete solution of the erythrocytes of the dog's blood. The maximum amount of the hæmolysin is found in cultures of about two weeks old. Filtrates from 14 days' cultures produced complete hæmolysation in much smaller amounts than 0·5 cubic centimetre; for example, 0·01 cubic centimetre proved sufficient.

The dysentery bacillus gave equally positive results and thus presented a new point of resemblance, in addition to the many others, to the typhoid bacillus.

The colon bacilli did not exhibit any marked hæmolytic properties, either as regards the erythrocytes of the dog or those of other animals. I have, however, only tested two races of the colon bacilli, and it is possible that other strains may possess hæmolytic properties.

As regards the typhoid bacillus, I have been successful in obtaining an anti-hæmolysin. For the purpose a rabbit was treated with a filtered typhoid culture which contained active hæmolysins. The serum of the rabbit developed anti-hæmolytic properties 10 days after the first injection of the typhoid culture. On the addition of 0·05 cubic centimetre of the serum of the treated rabbit to an amount of the typhoid hæmolysin capable of producing complete hæmolysis of one-twentieth of a cubic centimetre of dog's blood, the solution of the dog's erythrocytes was inhibited. The serum of a normal rabbit used as a control did not exhibit any anti-hæmolytic properties.

I am indebted to Dr. Allan Macfadyen for the help which he has afforded to me as well as for the performance of the necessary inoculations.

EXETER GUARDIANS AND VACCINATION.—At the meeting of the Exeter Court of Guardians held on Feb. 4th it was decided to thank a gentleman who had forwarded the fees for the vaccination of his children by the public vaccinator to the guardians. One guardian remarked that it was a sin for people who could pay for vaccination to be vaccinated by the public vaccinator. Another guardian said that there were two sides to the question, as vaccination was essential for the public safety and the public should not grumble at the expense.

A CASE OF PERFORATED GASTRIC ULCER SIMULATING APPENDICITIS.

BY C. A. B. HORSFORD, M.B., CH.B. EDIN.,
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THE following case may be of interest to the readers of THE LANCET, not only because of its comparative rarity, but because it illustrates well the possible similarity between, and the frequent difficulties in the diagnosis of, the above-named conditions.

The patient, a married woman, aged 32 years, was admitted to the Royal Albert Hospital, Devonport, on the evening of Monday, Jan. 13th, 1902. On the previous Wednesday morning (Jan. 8th), before breakfast, she had an attack of acute pain in the abdomen, most marked in the right hypochondrium. Vomiting soon commenced and persisted at intervals throughout the day. The conjunctivæ were somewhat jaundiced, but the urine contained no biliary constituents. Tenderness was marked over the gall-bladder. The abdomen was generally flaccid and there was no distension. The temperature remained normal during the day and the patient showed no signs of collapse. For two years she had suffered from "attacks of indigestion" with occasional vomiting, but she had never had any hæmatemesis. On the 9th the temperature rose to 100° F., but after the constipation, which had been present for some days, had been relieved by repeated turpentine enemata her condition seemed to improve considerably. On the 11th, however, she had another attack of severe pain. Her right leg was drawn up and tenderness at McBurney's point and slight bulging in the right iliac fossa were marked. Vomiting of bile-stained fluid was frequent and on the evening of the 11th it had a marked stercoraceous odour. The temperature was then 100° and the pulse was 95. Nothing definite was revealed per vaginam. A diagnosis of appendicitis was made but no operative interference was considered necessary. On the 13th she was decidedly worse. The pain extended all over the lower half of the abdomen, and as she was rapidly losing strength she was sent to the hospital.

On admission the patient appeared to be in great pain and considerably exhausted from want of sleep. Her temperature was 99° and her pulse was 88 and of good quality. She had vomited that forenoon, but not since. The abdomen was not generally distended, but it bulged slightly in the hypogastrium and right iliac region. There was slight movement of the upper part with respiration; tenderness was acute in the lower half but only slightly so above, and on percussion a dull area was found in the right iliac fossa. Liver dulness was present. Per vaginam there was great bulging of the anterior vaginal wall, the uterus being pushed backwards and upwards. This was confirmed per rectum and there was obviously a large collection of fluid in the pelvis. It was decided to perform laparotomy on the next morning. The patient took small quantities of milk at frequent intervals without discomfort and after a hypodermic injection of one-sixth of a grain of morphia she passed several hours in comparative ease. At 1 A.M. her condition appeared to be no worse, but at 4.30 A.M. she suddenly became collapsed. She was cold, sweat poured from her, her abdomen became rapidly distended and her breathing shallow and quick, and her expression was most anxious. She was stimulated freely but in about an hour she died.

At the post-mortem examination on opening the abdomen the great omentum was found to be slightly adherent to the anterior abdominal wall and firmly so to the coils beneath. The stomach contents filled the right half of the abdominal cavity and pelvis. An abscess between the coils of small intestine occupied the right iliac fossa, extending downwards into the pelvis and upwards along the ascending colon. Elsewhere there were signs of more recent peritonitis. The vermiform appendix was healthy. On examining the stomach there was found on the anterior surface near the pylorus a perforated ulcer, oval in shape and three-quarters of an inch long. The peritoneal margin was ragged and apparently recently destroyed, but the mucous edge was smooth. The ulcer was not terraced. Neither was it thickened nor adherent to neighbouring structures. No other ulcers were to be found.

Although on the first day of the illness the probability of an attack of biliary colic was entertained I need hardly dilate on the symptoms of the following days, for they were sufficiently clear to justify a diagnosis of appendicitis. The detection of a collection of fluid in the pelvis, continuous with a dull area in the right iliac fossa, is not infrequently found in that condition. The perforation of an ulcer of the anterior gastric wall usually produces general peritonitis, with a rapidly fatal termination. The ulcer appeared to be acute in its formation and probably the perforation was slow in its completion, an example of the "subacute" perforations. The escaped fluid no doubt took such a course as has been well described by Mr. B. G. A. Moynihan in a published paper on perforated duodenal ulcers.[1] In this case the fluid, having passed over the edge of the transverse meso-colon and along the ascending colon to the iliac fossa, became shut off from the general peritoneal cavity by the great omentum which formed an effective lid for the suppurating cavity. Whether the final shock was due to a more complete perforation of the ulcer or due to a bursting of the iliac abscess into the general peritoneal cavity, the complete gastric perforation having already occurred, I am not prepared to say.

Finally, I wish to express my indebtedness to Mr. E. Down for the notes of the case previously to admission, and to Mr. G. Thom, under whose care the patient was admitted, for his kind permission to record the case.

Devonport.

THE MEDICINAL USE OF THE PRESSOR SUBSTANCE OF THE PITUITARY BODY.

BY F. GOLLA,

LATE DEMY OF MAGDALEN COLLEGE, OXFORD.

(*From the St. George's Hospital Physiological Laboratory.*)

THE physiological effect of injections of pituitary extract has been worked out in the last few years by a number of observers. Oliver and Schäfer[2] demonstrated that an extract of the pituitary body caused a marked rise of blood-pressure when intravenously injected, and they were able to show that this effect was due to a contraction of the blood-vessels and augmentation of the cardiac contraction which persisted after destruction of the central nervous system. They pointed out that it differed in its action from suprarenal extract inasmuch as a definite slowing replaces the accelerating action on the heart of a suprarenal injection after section of the vagi. Howell[3] tested the effects of both the anterior lobe and the infundibular body when injected in saline extracts. He found little change with injection of the hypophysis alone, but injection of the infundibular body caused a marked slowing of the heart with the vagi intact, and with the vagi divided or after atropin the slowing of the heart-beat was less pronounced, though in both cases there was a rise of blood-pressure. Cyon[4] also obtained a rise of blood-pressure and slowing of the pulse from injection of pituitary extract. He showed that section of the vagi either before or after injection had little influence on the results obtained and that atropin injections, unless in very large quantities, did not inhibit the retardation produced by the pituitary extract. Cleghorn[5] was able to obtain slowing of the isolated mammalian heart on perfusion of pituitary extract. More recently Schäfer and Vincent[6] were able to demonstrate the existence of two substances in the infundibular part of the pituitary gland having distinct physiological properties, one of these producing a rise and the other a fall of blood-pressure. These two bodies they distinguished as the *pressor* and *depressor* substances. Of these they found that the pressor substance is soluble in salt solution and insoluble in alcohol and ether, whilst the depressor substance is soluble in all three. The active substances are not destroyed by boiling. The pressor substance was found to produce its action on the heart and the peripheral arteries; its action is prolonged and during its period of action a second dose is inactive or nearly so. They were able to obtain the same retardation of the cardiac mechanism as that produced by injection of pituitary extract in the previously mentioned experiments. In a recent communication Schäfer and Magnus[7] admit that the depressor action of alcoholic extracts of the pituitary cannot be regarded as of a specific nature. They find that the pressor substance of the pituitary body, unlike suprarenal extract, causes no diminution in volume of the kidney when injected intravenously. The injection is followed by a diminution in volume of the spleen, intestines, and extremities with an increase in volume of the kidneys and a prolonged and pronounced diuresis which, however, lasts for a shorter period than the change in volume of the kidney.

The medicinal use of pituitary extracts has hitherto been attended with no very pronounced results. Cyon[8] considered that the hypophysis was able to act vicariously with the thyroid. He also attributed to it a specific action on the vagus as far as its cardiac mechanism is concerned. Lo Monaco and van Rynbuhr[9] have, however, recently disproved Cyon's statement that, after removal of the pituitary, excitation of the cardiac vagus centre is ineffectual and confirm the view of Friedman and Maas that removal of the pituitary is not followed by any morbid results. Schiff[10] found that administration of pituitary extract, though it had no effect on the metabolism of a young man, caused in an old man and a patient suffering from acromegaly marked increase in the phosphorus excretion by the urine and fæces. There was no corresponding increase in the nitrogenous metabolism, and one may conclude that the pituitary influences chiefly the metabolism of tissues rich in phosphorus and poor in nitrogen. These results are confirmatory of the belief in the causal connexion between disease of the pituitary and acromegaly. It would also seem possible that administration of pituitary extract might have a beneficial result in cases of myositis ossificans. Marinesco[11] was unable to effect any improvement of the condition of the extremities in three pronounced cases of acromegaly, but the headaches and neuralgic pains in the limbs were much relieved. Broadbent found great improvement in the psychical condition of patients suffering from acromegaly from treatment with pituitary extract. Rolleston[12] obtained a lasting improvement in the case of a woman who had suffered for three years from acromegaly which was permanent after the pituitary treatment had been suspended. The only cases of subcutaneous injection of pituitary extract that I have been able to find are those of Cyon, where he obtained a marked improvement in cardiac disease, and of Mairet and Bosc[13] who found that injection in a case of epilepsy was without result.

A consideration of the physiological properties of the pressor substance isolated by Schäfer and Vincent led me to try its effects on the human subject. Its slowing action on the heart beat, unlike that of digitalis, appears to be due to a prolongation of the systole rather than of the diastole. The pressor substance would appear to act exclusively on the sarcoplasm. I have been unable to obtain any marked effect on the muscles of amphibia rich in the rapidly contracting anisotropic elements such as the gastrocnemius. For clinical purposes the pressor substance purified by repeated washing of the alcoholic precipitate with ether obtained from 80 grains of the dried infundibulum was dissolved in 30 minims of normal saline. I found on injecting three minims of this solution into the mucous membrane of the lower jaw that a definite local vaso-constriction resulted; the mucous membrane remained blanched for about three-quarters of an hour for a considerable area round the point of injection. On injecting five minims subcutaneously into my right forearm there was a perceptible pallor of the finger nails for a few minutes. The pulse-rate fell from 95 to 84, and the wave was appreciably fuller. A subcutaneous injection was next made on a patient suffering from advanced Addison's disease under the care of Dr. H. D. Rolleston. The blood-pressure in the radial artery before injection was found to be 120 millimetres of mercury by means of the Hill and Barnard sphygmometer. The pulse-rate was 100. Eight minims of the saline

[1] THE LANCET, Dec. 14th, 1901, p. 1656.
[2] Journal of Physiology, vol. xviii.
[3] Journal of Experimental Medicine, 1898, vol. iii., p. 2.
[4] Archiv für Gesammte Physiologie, Bände lxx., lxxi., lxxiii., and Académie des Sciences, April, 1898.
[5] American Journal of Physiology, vol. ii.
Journal of Physiology, vol. xxv., p. 1.
[7] Ibid., vol. xxvii.
[8] Op. cit.
[9] Atti Accaddei Lincei, x.
[10] Berliner Klinische Wochenschrift, 1897.
[11] Semaine Médicale, 1895.
[12] THE LANCET, Dec. 4th, 1897, p. 1443.
[13] Archives de Physiologie Normale et Pathologique, 1896.

extract were injected subcutaneously into the forearm. Two seconds after the injection the patient complained of a sudden spasmodic contraction of the muscles of the arm and fingers. On feeling the pulse at the radial immediately after injection I was alarmed to find that it almost disappeared for a few seconds. That this symptom was due to the local muscular spasm with which it was coincident is confirmed by the fact that the arterial pulse in the left radial was found to be full and vigorous. 12 minutes after injection the arterial pressure was found to be 150 millimetres of mercury and the pulse-rate was 85. Previously to injection the patient had complained of feeling uncomfortably hot and a couple of minutes afterwards he spontaneously remarked that "all the heat seemed to have gone inside." Two hours after the injection the pulse-rate was 89 and the pulse itself was much stronger and fuller. The patient still complained of feeling cold at the extremities. Three hours after injection the pulse-rate was 95 and the blood-pressure 135 millimetres of mercury. There were some pain and localised swelling at the site of the injection. There was marked diuresis during the 24 hours succeeding the injection; the urine was acid with a specific gravity of 1010. There was no glycosuria, an effect frequently noticed after suprarenal injection. I have taken considerable quantities of the pressor substance by the mouth but have never been able to record any result, although the substance is unaltered by peptic digestion and is dialysable. The pressor substance would appear to be proteid in nature. It is precipitated from salt solution by trichloracetic acid, gives biuret, xanthoproteic and Millon's reactions. It is not precipitated by saturation with a neutral salt, it is unaffected by peptic but decomposed by prolonged tryptic digestion. The iodine found in the pituitary is not apparently in combination with the pressor substance. Its cardiac, vascular, and diuretic action would indicate that it may prove to be of service in cases of heart disease.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF RECOVERY AFTER VERY EXTENSIVE INJURIES.

BY MONTAGUE TENCH, M.D. BRUX.,
MEDICAL OFFICER TO GREAT DUNMOW INFIRMARY.

As an example of extensive injuries followed by complete recovery the following case may prove of interest.

In the course of 1901 a man, aged 55 years, a farm labourer, was knocked down and run over by the barn works of a threshing machine, drawn by four horses which he had been leading and which had taken fright. Both wheels on the near side passed diagonally across his pelvis and chest while he lay on his left side. When picked up and admitted to Great Dunmow Infirmary he was collapsed and pulseless and appeared to be in a dying condition. He recovered consciousness within a couple of hours and the following injuries were recognised. Both iliac bones were broken off above the pelvic brim, being freely moveable with coarse crepitus. There was no injury to the bladder or the urethra, but the torn rectum was extruded through a rent reaching from the anus to the scrotum rather to the left of the middle line. Large hæmatomata extended from the buttocks down the outer side of both thighs to their middle. Several ribs on both sides were broken, so that the sternum was protruded and moveable with crepitus. Surgical emphysema developed the same evening on both sides of the trunk and on both arms to the wrist, though there was no external breach of surface and no hæmoptysis. The left clavicle was extensively comminuted, otherwise the limbs and head escaped.

Extensive sloughing of the back and buttocks occurred during the ensuing six to eight weeks, laying bare the sacrum, and the hæmatomata, which had suppurated, discharged through an area eight inches in diameter over and above the sacrum. Pus and sloughs were discharged for 10 weeks.

The patient left the infirmary six months after the accident walking without limping, and is now contemplating resuming his work.

The temperature rose to 102° F. within the first week with the onset of suppuration, and assumed a hectic type while the discharge continued. Considerable wasting occurred during this time, but was rapidly made good afterwards. There was no indication of injury to internal organs other than that inferred from the general emphysema.

Great Dunmow.

QUININE AS A DRESSING.

BY J. REID, M.A., M.D., C.M. ABERD.

QUININE has been used in lotion for various diseases, but combined with cod-liver oil externally I do not know of any reference to the subject. I have used it with good results (one drachm to eight ounces in emulsion, to be shaken up before being used) in tertiary and rheumatic ulcers of the leg and for ordinary ulcers, in a case of gangrene of the skin, and after a burn, where a large surface (about a foot square) formed a slough and had to be removed as ulceration loosened the thick slough. All wounds took on a healthy and kindly action, and the pus from the sloughing derma smelled sweet and contained a limited number of cocci. I do not know that the dressing has anything to recommend it in the way of cheapness or of odour, but it has the advantage of supplying a weakened system with an oily food and a tonic drug. For intertrigo I have used it with good effects if not long required. For eczema it seemed to act well if stomach troubles were seen to.

Bristol.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum propriis collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ST. MARY'S HOSPITAL.

A CASE OF TRAUMATIC RUPTURE OF THE PROSTATIC URETHRA; COMPOUND FRACTURE OF BOTH LEGS; OPERATION; RECOVERY.

(Under the care of Mr. EDMUND OWEN.)

IN the following case the urethra was ruptured by external injury in an unusual situation. The most common site of rupture when occasioned by external violence is certainly the membranous portion of the urethra, but in this case the urethra was torn behind the posterior (superior) layer of the triangular ligament. This lesion is not very rarely produced by fracture of the pelvis, though in the case recorded below no signs of fractured pelvis were present. For the notes of the case we are indebted to Mr. W. J. Finlayson, dresser.

On the afternoon of Oct. 21st, 1901, some children were playing in the timber-yard of an undertaker, when they upset a pile of coffin-lids which fell upon them, killing one of them. As a result of this accident, a boy, aged seven years, was brought into St. Mary's Hospital with compound fracture of each tibia, and in a state of serious collapse. The house surgeon, Mr. V. Nesfield, at once took him into the theatre, and, under the influence of chloroform, cut down on to the right tibia, clearing dirt and blood-clot from the wound; then, having sutured the periosteum which had been extensively stripped up, he inserted a drainage-tube and dressed and fixed the limb. He treated the left tibia in the same way (this fracture was comminuted as well as compound, and the fibula was also broken and exposed). Marks of severe bruising were noticed over the lower part of the abdomen.

When the house surgeon saw the boy at night he found that some blood had escaped from the urethra, but that no urine had been passed. He, therefore, tried to introduce a catheter, but though he could not make it enter the bladder,

he drew off a little blood-stained urine. As the boy was recovering somewhat from the shock, and as there did not appear to him to be urgent need for further active interference, Mr. Nesfield decided to leave the boy quiet for the night.

Next day Mr. Owen saw the boy, and, finding that no urine had been passed, he had him at once taken into the theatre. The bladder was evidently distended, and there was great tenderness all over the hypogastric region. There was slight fulness in the perineum, and some blood was oozing from the meatus urinarius. As it was impossible to pass a catheter, Mr. Owen opened the urethra in the perineum, but he found there neither blood nor urine; and as he still could not find the way into the bladder, he had the boy placed flat, and made an incision through the lower part of the linea alba, so as to expose the front of the bladder below the peritoneum. This being done, and before the bladder was reached, blood and urine freely escaped, showing that leakage had occurred into the pelvis. But the bladder was so much distended and was so firm that it was evident that the leakage was not from it. An incision was then made into the bladder, when urine and clots escaped. The pool of stagnant urine on the floor of the pelvis was drained by making an incision through the pelvic fascia and levator ani at the side of the prostate, and passing a large, soft tube through it into the wound already made in the perineum. The bladder and pelvis were then washed out with hot water. The boy was so extremely ill when upon the table that it was impossible to make search for the exact position of the rent; but inasmuch as no instrument could be passed into the bladder whilst there was escape of urine into the pelvis (but not into the perineum), there could be no doubt but that the rupture was behind the triangular ligament. Had the neck of the bladder itself been torn the bladder would probably not have remained full of urine under pressure. The rent, therefore, must have been between the neck of the bladder and the triangular ligament. To the surprise of all concerned the boy recovered. For a time some of the urine passed by the suprapubic wound and some by the perineal drain. Eight days after the operation Mr. Nesfield placed the boy under chloroform for the sake of rearranging the dressings of the legs, and he took that opportunity of exploring the bladder. He then found that he could pass his finger through the suprapubic wound and out through the perineal incision, and he formed the opinion that the rupture was in the prostatic portion of the urethra. With his finger thus in the bladder, he succeeded in introducing a steel bougie through the urethra and into the bladder. Gradually the openings closed and the urine flowed more abundantly by the proper route. From time to time a No. 7 English bougie has been passed to give assurance that no contraction is taking place, and up to the present all the urine has come the right way and the boy is convalescent.

SOUTH DEVON AND EAST CORNWALL HOSPITAL.

TWO CASES OF PERFORATING GASTRIC ULCER OCCURRING IN SISTERS; OPERATION; RECOVERY.

(Under the care of Mr. R. H. LUCY and Mr. WHIPPLE.)

THE cases of perforating gastric ulcer treated by operation which have been recorded in THE LANCET within recent years have been very numerous, but in nearly every case there is some special point of interest or importance. The two cases recorded below are remarkable in that two sisters suffered from perforation of gastric ulcer. Inasmuch as such an occurrence, so far as we are aware, has not been recorded before, we must look upon it as little more than a coincidence, though the same predisposing factors were probably present in the two cases. Instances have been observed in which two members of the same family have suffered from ulceration of the stomach,[1] but without perforation. In the second case recorded below the patient was only 16 years old. An instance of perforation in a younger child has been described[2] in which a child, 13 years of age, died from a perforating gastric ulcer. For the notes of the cases we are indebted to Mr. F. C. Hitchins, late house surgeon.

CASE 1.—A young woman, aged 20 years, was admitted into the South Devon and East Cornwall Hospital on March 9th, 1900, under the care of Mr. R. H. Lucy. On the 8th the patient was at work in her usual health, when at about 11.30 A.M. she was seized with an attack of sudden severe pain in the epigastrium. She was slightly sick once and was taken home. The pain continued with no improvement until the evening. About two years previously she had been treated for dyspepsia, but recently she had not complained of anything definite. She had never had any hæmatemesis. At 10 P.M. Dr. W. L. Pethybridge saw the patient. She was very anæmic and had an anxious expression. The pulse was 120 and feeble and the temperature was 100° F. The abdomen was generally distended and there was great tenderness in the epigastrium and the left hypochondrium. There was resonance everywhere with the exception of some slight dulness in the right flank. The liver dulness was distinctly diminished. A diagnosis of perforated gastric ulcer was made and the patient was advised to enter the hospital at once for operation, but she declined to do so. A quarter of a grain of morphia was injected. On the next morning at 10 o'clock she was seen again, when the pulse had increased to 140 and the liver dulness was still further diminished. She now consented to the performance of an operation and was removed to the hospital. At 12.30 P.M. the abdomen was opened under chloroform. Free gas at once escaped and a perforated ulcer of the size of a shilling was found on the anterior surface of the stomach close to the cardiac end of the lesser curvature. The edges were very indurated, the aperture being so large and the patient's general condition so bad that it was thought inadvisable to attempt to suture it. The abdomen was flushed out with hot saline solution and the contents of the stomach, which were free in the peritoneal cavity and included a large piece of orange, were evacuated. A rubber drainage-tube was passed through the ulcer into the stomach, iodoform gauze being packed round the tube. The lower portion of the wound was then closed with salmon-gut sutures. During the operation the patient was infused with six pints of saline solution containing an ounce of brandy. She remained in a very critical condition for 48 hours after the operation, after which she began slowly to improve. Two days later the gauze round the drainage-tube was removed and was replaced by fresh gauze. On the 14th the drainage-tube was removed and a No. 12 Jacques catheter was passed in its place. On the 19th the Jacques catheter was removed. On the 30th the wound, which had suppurated rather freely, was quite sound. The patient was discharged from the hospital on May 1st. She could now take chicken, mutton, &c., is free from pain, and feels quite well.

CASE 2.—A girl, aged 16 years, the sister of the patient in the preceding case, was admitted into the South Devon and East Cornwall Hospital on Nov. 16th, 1901, under the care of Mr. Whipple. The patient had complained of pain after taking food and of shortness of breath with occasional vomiting for three months. There had been no hæmatemesis. On Nov. 16th she had her dinner, consisting of meat and vegetables, at 1.45 P.M., after which she worked at a sewing-machine for about two hours. At 5.15 P.M., when sitting quietly in a chair, she was suddenly seized with acute pain in the epigastrium and left side which continued until 8 P.M., when she was attended by Dr. Pethybridge. There had been no vomiting. When seen her face was pale and anxious-looking, her legs were drawn up, the respirations were rapid and shallow, and the pulse was 126 and of fair volume. The abdomen was distended in its lower half, tender all over, and moved very slightly with respiration. There was dulness extending from the pubes nearly to the umbilicus; this, however, proved to be due to a distended bladder. The patient was sent into the hospital with a diagnosis of perforated gastric ulcer. At 10 P.M. the abdomen was opened under chloroform followed by ether. On opening the general peritoneal cavity fluid, but no free gas, escaped. A perforated ulcer of the size of a sixpence was found at the extreme cardiac end of the stomach on its posterior surface high up under the diaphragm. In order to expose the ulcer considerable traction had to be made on the stomach. The ulcer was round and clear-cut with indurated edges. Semi-digested food escaped through the opening. This was removed with swabs, the edges of the ulcer being approximated with considerable difficulty by means of Lembert catgut sutures passed about a quarter of an inch beyond the margins of the ulcer. The sutures tended to cut out when being tightened. A gauze drain was passed down to the seat

[1] THE LANCET, Oct. 9th, 1858, p. 370.
[2] Medical Times and Gazette, 1872, vol. i., p. 220.

of the ulcer and was left in the upper part of the wound, the lower portion of which was closed with salmon-gut sutures. The patient was infused during the operation with two pints of normal saline solution containing 10 minims of liquor strychninæ and an ounce of brandy. She made an uneventful recovery and left the hospital on Jan. 1st, 1902.

Remarks by Mr. HITCHINS.—The following points are of interest. The occurrence of a perforated gastric ulcer in two members of the same family and of the same sex. In each case the ulcers were close to the lesser curvature near its cardiac end, the most common situation being near the pylorus. In the first case perforation took place three and a half hours after the ingestion of food, and in the second case a similar time had elapsed after a meal, perforation usually taking place at a short interval after a meal. The first case illustrates the chance of recovery even where operation does not take place for many hours after perforation—in this instance accompanied by considerable extravasation of food with resulting peritonitis. Free gas was present in the first case with diminution of the liver dulness; in the second case no free gas was present and there was no absence or diminution of the liver dulness. It is rare for perforation to occur at so young an age as that of 16 years. Both patients had good teeth. I believe the second case to be one of the youngest recorded. I have to thank Mr. Whipple and Mr. Lucy for kindly permitting me to record the cases, and Dr. Pethybridge for notes on the cases up to the time of their admission.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Two Cases of Ligature of the Left Carotid for Aneurysm of the Arch of the Aorta.

A MEETING of this society was held on Feb. 11th, Dr. F. W. PAVY, the President, being in the chair.

Mr. CHRISTOPHER HEATH read a paper on two cases of Ligature of the Left Carotid for Aneurysm of the Arch of the Aorta, and showed post-mortem specimens of four cases. The cases reported were the sixth and seventh in which Mr. Heath had performed the operation. The sixth case was in a woman, aged 61 years, under the care of Dr. A. H. Robinson in the Mile End Infirmary, where she was admitted in July, 1890, with all the symptoms of aneurysm of the arch of the aorta. She was kept in bed and had large doses of iodide of potassium for many weeks, but no alteration in the pulsation resulted. She always sat up in bed with the knees drawn up and her head resting upon them. On attempting to lean back against the pillows the dyspnœa increased and inspiration became stridulous. The left carotid was tied without an anæsthetic on Nov. 16th, 1890. On Nov. 19th the respiration, which had been distinctly noisy, was now unaccompanied by the least noise and the patient was able to recline against her pillows. On Nov. 22nd she was able to sleep for seven hours consecutively. In January, 1891, there was some return of pain in the right shoulder. In February the pulsating tumour above the sternum had decreased and the patient was able to lie and to sleep in any position. She continued to improve and was discharged at her own request on August 8th. She was admitted to the London Hospital on Sept. 3rd, when the pulsating tumour could be just felt above the clavicle, and she died suddenly on Nov. 29th, more than a year after the operation. The seventh case was that of a man, aged 36 years, admitted into University College Hospital under the care of Dr. F. T. Roberts on Nov. 4th, 1898, with aneurysm of the arch. The physical signs were well marked and included "tracheal tugging" and a blowing systolic sound over the aneurysm. The lungs were examined and found to be healthy. During November, December, and January the patient had severe attacks of pain in the shoulders, back, and neck. The aneurysm at first diminished, but in January it increased in size and definite swelling and pulsation appeared beneath the pectoral below the right clavicle. Mr. Heath tied the left carotid with silk under eucaine β on Jan. 18th, 1899. On the 20th the pulsation was distinctly less marked and daily improvement was noted till Feb. 1st, when the patient returned to the medical ward with the operation wound healed. The pulsation in the aneurysm was now much less distinct and the patient was free from pain and had slept well since Jan. 20th. On Feb. 16th the patient had pain in his chest and next day his temperature went up to 103° F. and he rapidly developed all the symptoms of acute phthisis and died on March 21st. The aneurysm gave no trouble and was daily less evident. The specimens shown were four in number, one from a man under the care of Dr. Cockle on whom Mr. Heath tied the left carotid in February, 1872, and who greatly improved for a twelvemonth, when he resumed his hard agricultural labour and the aneurysm began to grow and eventually burst four and a half years after the operation. In this case the necropsy was made three days after death in very hot weather and the decomposed clots were unfortunately washed away. The second specimen was from a case of a man, aged 38 years, in whom Mr. Heath had tied the left carotid on March 8th, 1890, and the patient died suddenly on May 12th. The aneurysm was filled with laminated clot. The third specimen was from Case 6 and showed an aneurysm of the size of an orange almost completely filled with laminated clot. The fourth specimen was from Case 7 and showed an aneurysm of the arch of the size of a clenched fist and a second small aneurysm of the root of the innominate, both of which were nearly filled with laminated clot, the centre of the larger being occupied with soft clot. Mr. Heath maintained that ligature of the left carotid undoubtedly produced an immediate effect upon aneurysm of the arch and discussed the theories which had been proposed to explain the formation of laminated clot in the sac. He thought that the ultimate solidification of the aneurysm, though its only method of cure, accounted for the sudden deaths which occasionally occurred some months later, owing partly to pressure effects and partly to the induction of syncope.

Mr. A. CARLESS mentioned the case of a woman, aged 40 years, who for five months before coming under observation had had pain in the right shoulder, arm, and neck, with dysphonia and dysphagia. She had a brassy cough. There was no specific history and she had had two healthy children. When admitted to hospital the chest wall was pushed forward at the level of the first and second ribs on each side. There was a swelling below the left sterno-mastoid muscle. Both the temporal and radial artery on the left side were diminished in size. While under observation she had several attacks of syncope and the aneurysmal sac seemed to become more tense. The left carotid was tied and for a few days after the operation there was a slight increase in tension of the sac and there was also slight loss of power on the left side of the face and the left side of the tongue. A few days later these symptoms disappeared, the dyspnœa became less, and the pulsation diminished. 24 days after the first operation the first part of the subclavian artery was tied; shortly after this she had a bad attack of cardiac failure and cough which was relieved by the use of digitalis. Six months later very little pulsation could be felt above the clavicles, and for three years she was able to go about and do her work with comfort. She died suddenly from rupture of the aneurysm into the left pleural cavity. At the necropsy the aneurysm was found not to be sacculated. The left carotid and subclavian arteries were small and contracted. The conditions under which he considered the operation advisable were when the pulsation was marked on the left side and involved the root of the left carotid artery.

Dr. F. T. ROBERTS said that the main point of discussion was under what circumstances the carotid and subclavian vessels should be tied. He considered that the two chief causes of aneurysm were heavy work and alcohol, and he was also of the opinion that smoking had a deleterious effect on the walls of the vessels. The chief indication for operation was pain, while aortic regurgitation and degeneration of the arteries were unfavourable to operation.

Mr. R. BARWELL, in discussing the suitability of cases for operation, said that in those cases in which the dilatation of the aorta was symmetrical clot was not likely to form even if the vessels were tied, whereas if the aneurysm was sacculated clot was much more likely to form. He quite agreed with Mr. Heath that the clot did not extend down from the ligature but was formed in the sac itself near the exit of the vessel from the sac. He considered that it was frequently advisable to tie the right carotid and right subclavian rather than the vessels on the left side—indications which vessel should be tied being derived from a consideration of the vocal cords and the state of the pupil. He

thought that in Mr. Heath's fourth, sixth, and seventh cases, it would have been better if the vessels on the right side had been tied.

Dr. T. R. H. BUCKNALL mentioned the case of a man, aged 47 years, who had had syphilis, in whom there was a tumour below the left sterno-mastoid muscle. The patient had signs of pressure on the trachea and left bronchus, but there were no signs of pressure on the recurrent laryngeal nerve. The left carotid and the subclavian artery in its third part were ligatured. The pulsation became less and the patient was free from symptoms for two months.

Mr. HEATH, in reply, said that his rule had been to tie the artery which came off next beyond the aneurysm. He quite agreed that in certain cases it was better to tie the right, rather than the left, carotid.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Feb. 10th, Dr. W. H. ALLCHIN, the President, being in the chair.

Mr. EDMUND OWEN showed a case of Traumatic Rupture of the Prostatic Urethra in a boy, aged seven years, on whom a pile of coffin-lids had fallen on Oct. 21st last. The boy had been admitted into St. Mary's Hospital in a state of grave collapse. He was at once taken into the theatre where the house surgeon treated a compound fracture of each tibia. When the house surgeon saw the boy at night blood was oozing from the urethra and no urine had been passed. He then tried to introduce a catheter, and though this did not enter the bladder it drew off a small quantity of blood-stained urine. There was no swelling in the perineum. The house surgeon took no further steps that night towards relieving the bladder, and when Mr. Owen saw the boy next day he had him at once placed upon the operating table and he tried, unsuccessfully, to pass a catheter. He then opened the urethra in the perineum but failed to hit off the track; so he made an incision between the recti abdominis below the peritoneal reflection, and in doing so discovered a quantity of bloody urine around the base of the distended bladder. He next opened the bladder and let out much urine, and then he passed a large drainage-tube through the floor of the pelvis and out by the perineal incision without investigating further. A week later the house surgeon having occasion to put the boy under an anæsthetic passed his finger through the suprapubic wound and out by the perineum, demonstrating the presence of a laceration in the prostatic urethra. Moreover, he was then able to introduce a No. 7 English silver catheter through the urethra and into the bladder. The wounds gradually closed and the boy now passes all his urine the proper way. There is no indication whatever of the prospect of a traumatic stricture.[1]

Dr. WILLIAM EWART showed a case of Senile Anæmia associated with Gouty Rheumatoid Arthritis and Dyspepsia. The patient, a man, aged 68 years, was admitted into hospital with great pallor (without yellowish tinge), debility, and slight anasarca (without albuminuria or valvular disease), anorexia, and flatulency with foul tongue and gums, and an indolent, painless, rheumatoid swelling and stiffening of both wrists and of the mid-phalangeal knuckles and of both knees. This swelling had set in about three weeks previously. No hæmorrhages or any other definite cause could be found for the anæmia. The patient had had syphilis 40 years previously and gonorrhœa 23 years previously. He was laid up 20 years before for a month with gout in the toe, and he had had occasional twinges since. He had always been temperate though not a teetotaler. The blood-count gave 2,800,000 red cells and 60,000 white cells per cubic millimetre, and the amount of hæmoglobin was 60 per cent. On careful physical examination no splenic enlargement or other visceral abnormalities could be detected, nor any glandular swellings or other indications of cancer. The case was regarded as one of senile anæmia and arthritis of toxic (alimentary) origin, with leucocytosis. The etiology of the anæmia and leucocytosis in this instance was obscure. Latent carcinoma might be present, although the general improvement which had taken place under treatment rendered this improbable, and, moreover, the gastritis and rheumatoid arthritis might be regarded as a sufficient pathological burden. The patient's age and gouty bias might explain the slowness of recovery from the anæmia.

Dr. EWART also showed a case of Tabes Dorsalis in a man who had been for five years subject to attacks of acute abdominal pain, for which he had from time to time been admitted to the hospital. Other symptoms had recently developed which showed the case to be one of tabes.

Mr. C. B. KEETLEY showed a case of Excision of a Tuberculous Hip, in which the wound of excision was carefully lined with Thiersch's grafts. The patient was six and a half years old when her left hip-joint (the acetabulum and the head of the femur) was removed by erasion for tuberculous disease. The tubercle, however, extensively affected the superficial parts, subcutaneous and inter-muscular; therefore three weeks afterwards operation was repeated and the whole wound, including the deep part leading into the cavity left by erasion of the joint, was lined by Thiersch's grafts. All the deep grafts and most of the superficial grafts adhered, and from a fortnight after this second operation what little discharge there was came from the superficial sore. This was further grafted, and had occasionally broken out afresh in small parts which, however, readily healed. The hip-joint itself had given no more trouble. This had never been drained by any artificial tube. The temperature rose above 99·5° F. only twice during her stay in the hospital and was generally at or about normal.

Mr. E. MUIRHEAD LITTLE showed two cases of Late Rickets. The first patient was a girl, aged 13½ years, who suffered from knock-knee. She had walked badly since she was four years old, but much deformity was not observed until a year previously to her being admitted to the hospital. She was a healthy-looking girl, but was very small for her age. There were bosses on the forehead and on the parietal bones, some teeth were carious, the chest was well shaped but there were distinct enlargements of the ends of the eighth and ninth ribs on both sides, the spine showed lordosis, and the abdomen was slightly distended and the muscles were somewhat flabby. The liver and spleen were normal to palpation. The lower ends of the ulnæ and radii were enlarged and skiagrams showed cupping of the diaphyses as in infantile rickets. She had knock-knee, the ankles being five and a half inches apart when the knees were in apposition. The tibiæ were not obviously deformed. Macewen's osteotomy was performed on both sides and the legs were straightened and were put in gypsum at once. Later, when this was removed, the ankles could be put in apposition without strain. The second case was that of a youth, aged 17 years, who suffered from knock-knee. His mother stated that no deformity had been noticed until he was five years old. Four or five years ago he was an out-patient at the Evelina Hospital for Sick Children and he wore instruments for some time. He had always been thin, but no particular notice was taken of any muscular wasting. He was a tall, long-legged, thin lad. There was little or no subcutaneous fat on the limbs, so that all bony prominences were much accentuated. There was marked fixed lordosis but no paralysis and no contraction of the hip-joints. The great trochanter on each side was in Nélaton's line; the right lower limb was markedly rotated out and there was genu valgum, the leg forming an angle of 145° with the thigh. The tibia and the fibula were slightly bent in their upper thirds, with the convexity inwards. On the left side the knee was contracted and could not be extended beyond 155°. The inner tuberosities of the tibiæ and the lower epiphyses of the tibiæ and fibulæ were enlarged, especially on the right side. The elbows were contracted and could not be extended below 150°. No tendons were abnormally tight and there were no marks of rickets on the ribs or on the wrists. Skiagrams showed the bones of the lower limb to be unusually pervious to the x rays and the epiphyseal lines at the knees were unusually broad and rather irregular. Macewen's osteotomy was performed on both femurs and the right tibia and the right fibula were divided just below the tuberosity of the former. All the bones were soft and were easily penetrated by the osteotome. The patient left the hospital with the limbs in gypsum on Dec. 28th, 1900. Subsequently he was ordered to wear instruments from the boots to the thighs, with ring catches at the knees, and these he still wears.—Mr. W. G. SPENCER said that he thought "osteomalacia of puberty" was a better name to apply to the condition present in the first case than the name "late rickets."—Dr. EDMUND CAUTLEY said that the

[1] A fuller account is given in the Mirror of Hospital Practice, p. 447.

enlargement of the epiphyses which was present in the first case made it probable that the case was one of rickets. The term "osteomalacia" should not be used for this class of cases.

Dr. W. ESSEX WYNTER showed three cases of Chronic Œdema. The first patient was a single woman, aged 23 years, who had enjoyed good health till November, 1900, when she developed a cough which lasted through the winter. For the past 10 years the patient had complained of attacks of misty vision lasting one or two minutes which had lately increased in frequency. Three years ago there was some swelling of the lips and tongue noticed chiefly on rising and lasting two months. The swelling of the face and legs appeared to have come on gradually and to have been notably worse since May, 1901, especially after walking or long standing, the legs being at times so stiff that she could only flex them with difficulty. In the mornings the swelling was softer and less distinct. The swelling of the face was noticed a few months earlier than in the legs, especially about the right eye. The general health appeared to have been unaffected and there had been no pain. The thoracic and abdominal organs appeared to be normal. The reflexes were brisk. The urine was of a dark amber colour and was cloudy and acid; its specific gravity was 1020; no albumin or sugar was present. Some improvement was noted in the degree of the swelling of the face and the legs; it varied, but it did not entirely disappear with massage, and subsequently it had been as much as at first. With the disappearance of the hardness pitting could be more easily obtained. The temperature was normal throughout and the bowels acted regularly. Thyroid extract had been given freely for three months without effect. The second case was that of a girl, aged 17 years, who had had erysipelas seven years ago. The mother stated that from infancy the patient's legs were very "fat." About three months ago the face and hands were noticed to be swollen on rising and the enlargement of the legs increased. The swelling continued to increase daily and became more persistent. Recently she had noticed some dyspnœa on exertion and polyuria; otherwise the general health had been good. The face was pale and was uniformly swollen, the eyes being half closed; the hands also were swollen but were not distorted in shape; and dimples over the knuckles were well marked. The legs were uniformly enlarged and were very firm, only pitting slightly on hard and sustained pressure, the skin not being white or shiny. The thoracic and abdominal organs appeared to be normal. The urine was pale, clear, alkaline, of specific gravity 1009, and was free from albumin and sugar. The pulse ranged from 60 to 70 and was full and regular. There was a marked depression over the trachea and the rings could be readily traced, the thyroid isthmus being apparently absent. Thyroid tabloids had been increased from one to three daily. While lying in bed there was at first marked improvement, but on the patient getting about the measurements of the legs had returned nearly to their original dimensions, but were not so hard. The temperature had been fairly normal and the bowels had acted about once a day. There was an increase of seven pounds in weight in three weeks. The third case was that of a female, aged 25 years, who stated that she had never felt brisk and active but had not had any definite illness. For eight years she had suffered with diarrhœa, the bowels sometimes acting every quarter of an hour, accompanied with pain and prolapsus ani. She had suffered with severe depression. There had been menorrhagia of late with anæmia. The complexion was of a peculiar tallow-white and the face was somewhat puffy, with drooping of the lower lids and marked thickening of the upper lip, giving the appearance of a facial diplegia or Erb's paralysis; the muscles, however, retained the power of voluntary movement. The hair was rather thin over the forehead. The patient was full-necked and her speech was slow and monotonous. Knee-jerks were present. The diarrhœa was checked, but after a month the general condition remained unaltered. Five-grain doses of thyroid extract were ordered daily and rapid improvement ensued.

Mr. T. H. KELLOCK showed a case of Actinomycosis of the Tongue after Treatment by Cauterisation and Iodide of Potassium. The patient, a youth, aged 18 years, who had lived all his life in London, was admitted to hospital on Nov. 28th, 1901, for hæmatocele of the spermatic cord for which an operation was performed on Dec. 4th. On the 31st, two days before he was going to leave the hospital, he drew attention to a swelling on his tongue which he stated he had noticed that day for the first time. On examination a soft swelling of about the size of a small pea was seen on the dorsum of the tongue on the right side, rather yellowish in colour, and a somewhat similar swelling on the right side and slightly under the tongue. It was painless and not tender. An incision was made into it, and a little blood and pus were let out, which contained many yellowish-white granules. These, under the microscope and on cultivation, showed masses of streptothrix. On the following day, under an anæsthetic, the swellings were both freely incised, were scraped out with a spoon, and then were freely treated with the actual cautery. A little sloughing followed this, but it soon cleared up and the patient was discharged from the hospital on Jan. 9th, 1902. Two days after the operation he was given a mixture containing eight grains of iodide of potassium three times a day, which was gradually increased to 20 grains.

Dr. BERNARD E. POTTER showed a case of Nodding Spasm in a child, aged nine and a half months, who had suffered from nodding movements for four months. The child had always lived in very dark rooms with the exception of the two months of August and September, 1901, when the parents took her away with them to Norfolk. They returned with her about the middle of September, and the nodding movements began a month later, the child being then five and a half months old. Teething began at the age of five months. The child had been breast-fed and had had no other ailment. She was well nourished and had never had convulsions. The mother's labour had been natural and no instruments were used. The movements were almost entirely in the vertical direction. Soon after these head movements began a rotatory nystagmus in both eyes was noticed. The interest of the case lay in the following facts—that the movements began almost immediately after the commencement of dentition, that the change from the light rooms in Norfolk to the present dark ones in London appeared to have influenced the child, and that the movements were nodding in character and not from side to side as is more commonly the case.—Dr. ARTHUR F. VOELCKER said that the nystagmus in these cases differed from that seen in disseminated sclerosis in that the nystagmus was often of a convergent type.—Dr. CAUTLEY said that the etiology of these cases was of interest. He did not believe that they were due to teething, to rickets, or to dark rooms. He said that the prognosis was good except in those cases associated with microcephalus.

Mr. SPENCER showed a case of Scirrhous or Atrophic Cancer of the Tongue. The patient was a thin man, aged 72 years. He came to the hospital in November, 1901, complaining of increasing difficulty in swallowing and speaking owing to fixation of the tongue. Since then he had been taking iodide of potassium and mercury, but the disease had progressed and he required now 10 grains of compound pill of soap every night to obtain sleep. The patient spoke and swallowed with difficulty. The tongue was seen to be depressed to the level of the floor of the mouth and fixed, especially as regards its anterior half, whilst the epithelial surface was unaltered except as regards puckering, and there was no evidence of previous inflammation or ulceration. The tongue felt like a board and formed the surface of a densely hard mass to be felt bulging below the jaw and fixed to the horizontal rami, especially on the right side, on which side also the submaxillary glands appeared to be already involved in the tumour. The case appeared to be one of the rare variety of malignant disease of the tongue called scirrhous or atrophic cancer, from its likeness to that form of disease in the breast, and is mentioned by Butlin, also by Lagoutte and Wright.[2] There was an absence of any history or sign of syphilis, and the anti-syphilitic treatment had failed. It did not appear to be feasible to attempt removal in this patient, so that it was proposed to continue the present administration of iodide of potassium and opium. As to the pathology of the case, Mr. Spencer said that it had not been examined microscopically, but it did not seem to be a case of fibroid epithelioma as there was no lesion in connexion with the mouth. It might be a glandular carcinoma commencing from some deep racemose gland-cells under the tongue.—Mr. J. HUTCHINSON, jun., said that he had seen a typical scirrhous carcinoma of the penis and he believed that that had originated from the glandular structure in the fossa navicularis.

Mr. H. L. BARNARD showed two cases of Facial

[2] See Butlin and Spencer, Diseases of the Tongue, pp. 322, 462.

Palsy in Children, one secondary to ear disease and the other associated with hemiplegia of the opposite side of the body coming on after a fall.

OBSTETRICAL SOCIETY OF LONDON.

Exhibition of Specimens.—Tubal Gestation.—Various Reports.—Annual Address.—Alteration of By-laws.

THE annual meeting of this society was held on Feb. 5th, Dr. PETER HORROCKS, the President, being in the chair.

Dr. AMAND ROUTH showed a Dermoid Cyst of the Ovary of the size of a large cocoa-nut removed per vaginam from a patient, aged 53 years. He asked the Fellows to state their experience as to the best method of treating the vaginal incision after the pedicle had been ligatured and returned. He usually partly closed the vaginal incision and inserted a gauze drain, but sometimes closed it completely.—The PRESIDENT said that it might be questioned whether posterior colpotomy was as good as abdominal section for the removal of tumours in general and dermoids in particular. It was true that it might be an easy matter to remove a dermoid through the vaginal roof, but one could never tell beforehand, and if the abdomen had to be opened to complete the operation after the cyst had been opened from below there would be increased risk of soiling the peritoneum with the dermoid contents; and it had struck him that the contents of a dermoid were occasionally more virulent than the contents of ordinary ovarian tumours. Bacteriological investigations, however, had not resulted in the discovery of any specific or specially pathogenic microbe. He preferred after a posterior colpotomy not to close the opening but to drain with sterilised gauze. If the opening were very large it might be partially closed by a stitch or better still by forceps.—Dr. CHAMPNEYS thought that the treatment of the vaginal wound should depend upon its size. If large it should be partially closed and a gauze drain put through the remainder; if small no suture was necessary. He now treated the pedicle of cysts, removed by colpotomy, by pressure forceps and gauze drainage, without ligature, and found the result very satisfactory, the forceps (left on for from 30 to 48 hours) assisting drainage.—Dr. G. E. HERMAN said the special danger attending the fouling of the peritoneum with the contents of dermoid cysts was due to the proneness of dermoids to suppuration, apart from which the contents were but slightly irritant. He thought that after removal of such a cyst per vaginam drainage was not needed, unless suppuration had occurred, or the cyst-contents were known to have fouled the peritoneum.—Dr. ROUTH, in reply, said that he preferred not to use a clamp for the pedicle, but to draw the cyst outside the vulva, retroverting the uterus during that procedure, and then to ligature the pedicle at leisure, all tension of the tissues being thus easily avoided.

Dr. ROUTH also showed a Uterus with Fibroids removed at eight and a half months of gestation by abdominal hysterectomy after Cæsarean section. There were six fibroids, two of which were originally in the pelvis. One was pushed up, but the second one remained in the sacral hollow, preventing all chance of normal delivery. At the operation on Jan. 31st last the obstructing fibroid was found to be firmly adherent to the pelvic floor. Both mother and child remain well.—After Dr. HERMAN and the PRESIDENT had spoken Dr. CHAMPNEYS said that the position of the fibroid behind the cervix would have rendered birth *per vias naturales* very difficult, even after destroying the child. He therefore thought Dr. Routh's treatment correct.

Mr. J. BLAND-SUTTON read notes of two cases of Tubal Gestation. The first was that of a woman whose husband, a medical man, had diagnosed a tubal pregnancy, which Mr. Bland-Sutton, after confirming the diagnosis, removed before rupture. The gravid tube was larger than usual owing to the size of the contained blood mole and to the unusual size of the amniotic cavity, which contained a misshapen embryo. The second case had been actually diagnosed by the patient herself and reminded Mr. Bland-Sutton of an artisan's wife whose husband had also diagnosed extra-uterine pregnancy after reading his "Diseases of the Ovaries and Fallopian Tubes." The patient, aged 36 years, had been confined in 1891 and was regular till July 5th, 1901, when a period was missed and the patient suspected extra-uterine pregnancy. Severe abdominal pain followed two cycle rides and Mr. Bland-Sutton was called into consultation. He confirmed the diagnosis and on July 19th removed the left tube and ovary and several ounces of fluid blood in the pelvis. The ampulla of the tube contained a clot as large as a walnut, the cœlomic ostium was large enough to admit a goose quill, and blood leaked freely from the opening during the operation. The walls of the tube were extremely thin but had not ruptured. Typical villi were found at the placental site.—The PRESIDENT thought that the explanation of the first specimen being so large without causing rupture was due to the fact that the embryo had perished early, and there had been slow hæmorrhage with formation of partially organised clot. With regard to the second specimen he called attention to the ease with which a tubal gestation might be ruptured during examination or during straining by the patient, and gave details of an unsuspected case that had proved fatal in this way.—Dr. HERMAN pointed out that the clot in Mr. Bland-Sutton's first specimen of tubal mole was in different degrees of decolourisation, indicating hæmorrhage at different dates. Had the patient had successive attacks of pain? He had seen rapid increase of size in tubal moles between examination and operation. He thought the thick layers of fibrin lining the tube would tend to prevent rupture, but the patient would be in danger of hæmorrhage from the open end, and for this and other reasons operation was advisable.—Dr. CUTHBERT H. J. LOCKYER asked if Mr. Bland-Sutton could explain the unusually large size of the amniotic cavity in the first specimen, and Dr. ROUTH asked why the amniotic cavity in tubal moles should be so much smaller than in uterine moles of the same date. He also asked if any Fellow had heard of a "hydatidiform" mole of the Fallopian tubes.—Mr. BLAND-SUTTON, in reply, said he had never seen a hydatidiform tubal mole but felt sure that one would come to hand. He emphasised the President's remarks and always discountenanced dressers examining cases of suspected tubal gestation for fear of rupture of the tube. He endorsed the fact that the amniotic cavity was much larger in uterine moles than in tubal moles, but could not explain it.

On the motion of Dr. WALTER RIGDEN, seconded by Dr. H. RUSSELL ANDREWS, the report of the treasurer, Dr. Champneys, was received and adopted.

The report of the honorary librarian, Dr. M. Handfield-Jones, was received and its adoption was moved by Dr. G. F. BLACKER, seconded by Mr. C. A. GOULLET, and carried.

The report of the chairman of the Board for the Examination of Midwives was adopted on the motion of Dr. THOMAS G. STEVENS, seconded by Dr. LOCKYER.

The PRESIDENT then delivered the Annual Address. He stated that, including 14 honorary Fellows, there were 654 Fellows, and these included every obstetric physician and every teacher of obstetrics and gynæcology from the medical schools of London. The papers read and specimens shown during the past year had maintained the high standard of former years. Of seven papers read six were obstetric and one gynæcological; but of the 50 specimens shown (excluding new instruments) 34 were gynæcological and only 16 obstetric. The papers and specimens were then reviewed. Obituary notices of six Fellows who had died during the year 1901 were read—namely, Dr. Eugene Goddard, Dr. Thomas Tinley, Dr. John D. Williams, Dr. A. E. Aust Lawrence, Dr. Henry Sutherland, and Surgeon-General Robert Harvey, C.B., LL.D.—On the motion of Dr. W. S. PLAYFAIR, seconded by Dr. HERMAN, a vote of thanks to the President for his address was passed by acclamation.

Dr. JOHN H. GALTON proposed, and Dr. G. H. DRUMMOND ROBINSON seconded, a vote of thanks to the retiring Vice-President, Dr. W. R. Dakin, and to the other retiring members of council.

Dr. CHAMPNEYS moved, and Dr. W. H. TATE seconded, a vote of thanks to the retiring honorary secretary, Dr. Herbert R. Spencer, and to the honorary librarian, Dr. M. Handfield-Jones, and Dr. SPENCER briefly replied.

Dr. GALTON proposed, and Dr. PLAYFAIR seconded, that the by-law which declared that "registrable medical men" were eligible for election to the Fellowship should be changed, as suggested by the council, to "registrable medical practitioners."—The proposal was carried unanimously.—A law was also passed by which Fellows who might make communications to the society would be permitted to publish their papers in scientific journals after being read.

The following gentlemen were declared elected to serve on the council of the society for the session 1902–1903: President: Dr. Peter Horrocks. Vice-Presidents: Dr. John

W. Byers (Belfast), Dr. Edward Malins (Birmingham), Dr. John Phillips, and Dr. Herbert R. Spencer. Treasurer: Dr. Francis Henry Champneys. Chairman of the Board for the Examination of Midwives: Dr. W. R. Dakin. Honorary secretaries: Dr. Amand Routh and Dr. Montagu Handfield-Jones. Honorary librarian: Dr. Robert Boxall. Other Members of Council: Dr. Comyns Berkeley, Dr. Henry Briggs (Liverpool), Dr. Thomas Vincent Dickinson, Dr. Charles Owen Fowler, Mr. Charles Arthur Goullet, Dr. Walter Spencer Anderson Griffith, Dr. David Berry Hart (Edinburgh), Dr. Arthur Corrie Keep, Dr. Arthur H. N. Lewers, Dr. Thomas Robert Lombe (Torquay), Dr. William Rivers Pollock, Dr. Harry Campbell Pope, Mr. Edward Reynolds Ray, Dr. William Loudon Reid (Glasgow), Dr. William Japp Sinclair (Manchester), Dr. Thomas George Stevens, Dr. Francis T. Tayler, and Mr. John William Taylor (Birmingham).

OPHTHALMOLOGICAL SOCIETY.

Intracranial Thrombosis as a Cause of Double Optic Neuritis in Chlorosis.—The Treatment of Cystoid Cicatrix following Cataract Extraction.—Endothelioma of the Orbit.—Ringworm of the Eyelid.—The Visual Purple of the Retina.—Exhibition of Cases and Specimens.

AN ordinary meeting of this society was held on Jan. 30th, Dr. DAVID LITTLE, the President, being in the chair.

Dr. C. O. HAWTHORNE read a paper in which he adduced arguments in favour of regarding intracranial thrombosis as a cause of double optic neuritis in cases of chlorosis.—Sir W. GOWERS recalled the fact that he was the first to point out the association of optic neuritis with chlorosis, but in such cases there were no true cerebral symptoms, if such a general one as headache was excluded. He doubted the possibility of thrombosis existing without cerebral symptoms, involving at least the sixth nerve. Thrombosis might cause optic neuritis and chlorosis might do so likewise, but to aver that the latter caused optic neuritis by thrombosis was a very wide statement. That chronic bone disease caused optic neuritis was an unquestionable fact, but a great mystery. In such cases there was often no evidence of sinus thrombosis. Middle-ear disease might also cause optic neuritis, but not necessarily by inducing thrombosis. Was it possible that disease of the spinal cord and ear disease brought about optic neuritis in the same way? Cerebral tumour often caused optic neuritis, but post mortem there was no thrombosis. Thrombosis might behave like tumour when there was septic contamination with infective tendency. Embolism was associated with septic endocarditis, never with simple thrombosis in an artery.—Dr. JOHNSON TAYLOR asked how cavernous sinus thrombosis could exist without proptosis, and why it should affect both sides. The good effects of iron and aperients in chlorosis supported the belief that the optic neuritis was due to some blood change.—Mr. ERNEST JONES read notes of a case in which thrombosis in the right leg occurred with double optic neuritis.—Dr. HAWTHORNE, in reply, said that some chlorotic patients died who suffered from optic neuritis and in these there was nothing but thrombosis present to account for it. He thought that the obstruction need not necessarily be in the cavernous sinus, but if it were he should expect proptosis.

Mr. G. A. BERRY read a note on the Treatment of Cystoid Cicatrix following Cataract Extraction. He said that it was not always possible to prevent the formation of cystoid cicatrices after removal of cataract, and when they did occur they were a source of danger to the eye on account of the way in which they facilitated the entrance of micro-organisms. Mr. Berry had found that this occurred in about 2 to 3 per cent. of cases operated upon. As a rule, the opening was very small and could be seen readily if the conjunctiva were dissected up. For the treatment he preferred to dissect up the conjunctiva and to turn it down as a flap, then with the cautery to burn gently the small opening and at once replace the conjunctival flap. This always cured the defect and he preferred this method to any other that had been introduced.

Mr. SIMEON SNELL (Sheffield) related a case of Endothelioma of the Orbit occurring in a girl, aged 19 years, associated with a peculiar varicose condition of the vessels of the surface of the eyeball. A marked feature was the varicose condition of the veins on the surface of the eyeball below, which had been first noticed about three months before the date of operation. There was also marked proptosis, the left eye being about a quarter of an inch in advance of the right. There was no œdema of the eyelids. The smooth surface of the tumour was felt in the floor of the orbit. Movements of the eyeball were normal except downwards, where there was some limitation. Vision was ⅔. On Oct. 28th, 1901, the entire tumour was removed through an incision in the lower lid without interfering with the eyeball. It had only loose attachments; it reached to the back of the orbit close to the under surface of the eyeball and along the front of the optic nerve. It was encapsuled and measured one and a quarter inches long and about half an inch thick. The eyeball had since resumed its normal appearance and the varicose condition of the vessels had disappeared and vision was ⅔. Mr. Treacher Collins examined the growth for Mr. Snell and reported it to be an endothelioma.

Mr. SNELL also related a case of Ringworm of the Eyelid in an adult due to a large-spored trichophyton, probably of animal origin, occurring in a healthy agriculturist, aged 34 years. The patient was first seen on Dec. 17th, 1901, with a large red patch on the right eyelid which had commenced two weeks before as a rounded, brownish-red pimple on the skin near the outer canthus. It gradually increased in size and now measured two inches by one and a quarter inches. It was oval in shape with pustular points and well-defined edges. It involved the outer half of the upper eyelid, reached to the temple, and embraced the outer commissure and the outer corner of the lower eyelid. The affected eyelashes and hairs of the eyebrow had fallen out or were loose. The pre-auricular gland and the gland beneath the jaw were involved. There were six other lesions on the right forearm and two on the left. In all the patches there was marked loss of hairs. The patient kept cows and one had on the left side a white patch without any hair on it for about two months. The ringworm apparently commenced on the right arm and the eyelid became affected by contact, the man working with his bare arms. Under the application of yellow mercurial oxide ointment improvement soon commenced and on Jan. 30th the patches on the arms had practically disappeared and the one on the eyelid was only distinguishable by its greater redness. Under the microscope a large-spored fungus was found, probably megalosporon ectothrix. Cultures from the hairs removed from the cow were not successful.

Dr. F. W. EDRIDGE-GREEN read a paper entitled, "Observations on the Visual Purple of the Retina." The expenses of the research were defrayed by a Government grant of £10. He undertook the investigation in order to ascertain whether he could obtain any objective evidence of the diffusion of the visual purple into the yellow spot of the retina. Many phenomena pointed to this conclusion, such as the fact that a perceptible interval elapsed before they were able to see with the yellow spot, and that a light might fall on the fovea without producing any sensation. His first experiments were made with the help of Mr. Treacher Collins. On examining the retina of a monkey it was at once evident that the visual purple extended to the yellow spot, but the very deep yellow of the spot prevented them from saying with certainty that the colour altered on exposure to light. Mr. Treacher Collins and he had tried numerous chemicals in order to find out a substance which would fix the visual purple, but they had not been successful. Nearly every chemical which he had used destroyed the purple. He then examined the eyes of two monkeys by himself and tried to obtain a first view of the yellow spot of the retina through a microscope. It was at first red and then it gradually bleached under the influence of light. He noticed a curious appearance in one retina: on examining the region just external to the yellow spot he saw rose-coloured cones surrounded by one or more circles of colourless rods. His last observations were made with the help of Mr. Devereux Marshall. Two monkeys were kept in a dark room for 24 hours, and then Mr. Marshall excised their eyes under chloroform, the room being illuminated only by a ruby light. The retina having been arranged on a slide was put on the stage of a microscope and viewed with a white light. The whole retina was bright crimson, but the brightest part of all was the yellow spot, and it could be seen that the visual purple was situated between, and not in, the cones in the rod-free district of the yellow spot. The visual purple in a few minutes bleached, leaving the yellow spot in its usual yellow colour. Dr. Edridge-Green

expressed his great indebtedness to Mr. Collins and to Mr. Marshall, and also to Professor E. H. Starling for the use of his laboratory and the very admirable dark room at University College.

The following cases and card specimens were shown:—

Mr. GEORGE KEELING: Unusual Refractive Change after Removal of a Congenitally Dislocated Lens.

Dr. H. R. BELCHER HICKMAN: A case of Retinitis Proliferans.

Mr. G. W. ROLL: A Congenital Anomaly of the Optic Disc.

Mr. A. W. ORMOND: A case of Double Anophthalmos.

Mr. J. H. PARSONS: Microscopical Sections of Pseudoglioma due to a Congenital Membrane.

Mr. INGLIS TAYLOR: Fenestrated Metallic Balls used by Professor Pflüger in Mules's operation.

Mr. HOLMES SPICER: A case of Third Nerve Paresis with Argyll-Robertson Pupil and Marked Association of Convergence and Contraction of the Pupil.

Mr. R. MARCUS GUNN: Unusual Deposit on the Inner Surface of Each Cornea of Recent Origin and Slow Development.

HARVEIAN SOCIETY OF LONDON.

Scleroderma and Raynaud's Disease.—Epistaxis and Rheumatism.

A MEETING of this society was held on Feb. 6th, Mr. W. WATSON CHEYNE being in the chair.

Dr. WILLIAM EWART read the clinical history of a case of Scleroderma associated with Raynaud's Disease, making special reference to treatment. The patient was a woman, aged 30 years, who had been under observation since November, 1900, and had then suffered for five years from mild symptoms of Raynaud's disease and from aggravated dyspepsia and gastric and cardiac attacks. These latter symptoms had been much more severe during the last six months, when she became aware of the tightening of the skin of the hands and feet and of the face, slightly also of the shoulders. Dr. Lee Dickinson, who had treated her at the end of 1900, had then observed the early beginnings of scleroderma, and the first alteration in facial contour and expression had been noticed by the husband four years ago. Since her admission to St. George's Hospital on Jan. 2nd, 1902, she had made considerable progress. The face had lost much of the pinched aspect and was smooth and oval. The lips were again supple for articulation, smiling, whistling, &c., the fingers and wrists had ceased to be rigid and, indeed, were freely moveable, and she could once more stoop to the ground so as to reach her feet. The treatment had been chiefly hygienic for the visceral, and thermo-mechanical for the cutaneous, trouble. She had been kept at rest in bed and had been fed on light food which had been well digested, on port wine, and on olive oil and whisky. The hands had been kept oiled and gloved and perpetually in contact with a hot-water bottle inside of a bag of cotton-wool, except for the periods of passive movement, of massage, and of skin massage. The recurring local asphyxia of the fingers had in this way been quickly remedied and pliability of the skin had been restored to a great extent, whilst the gastric and cardiac symptoms had remained in abeyance. The medicinal treatment had been diaphoretic and vaso-relaxant, the medicines administered having been liquor trinitrini (nitro-glycerine), spirit of nitrous ether, acetate of ammonia, and an occasional mercurial pill. After a few days she was allowed to get up for part of the day and to take exercise. In her case the scleroderma had preceded the Raynaud's disease by several years, as shown by the history of the minute scars on all the finger tips. Emaciation had been marked and the thyroid was small.—Dr. ALEXANDER MORISON, Dr. BARTON, and Dr. G. A. SUTHERLAND took part in the discussion.

Dr. SIDNEY P. PHILLIPS read a short paper on Rheumatism as a cause of Epistaxis in Children. (We hope to publish this paper in an early number of THE LANCET.)—Dr. EWART said that the great frequency of epistaxis in childhood which must be due to definite causes hitherto imperfectly explained must lead to its being not uncommon in children suffering from rheumatism, particularly as in this disease there was a well-marked tendency to hæmolysis. The mechanical factor of local congestion, as in tonsillitis, might also have a great share in this result.—Dr. LEONARD G. GUTHRIE said that in his experience epistaxis was more frequently associated with migraine than with rheumatism in children.—Dr. MORISON, Dr. TRAVERS R. M. SMITH, Dr. E. CAUTLEY, Dr. C. S. JAFFE, Dr. H. J. MACEVOY, and Dr. SUTHERLAND also took part in the discussion.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Discussion on Inoperable Cancer.

A MEETING of this society was held on Feb. 7th, Mr. ALFRED COOPER, the President, being in the chair.

Mr. W. MCADAM ECCLES, in opening the discussion, said that the cases which interested most of them, if not all of them, were those cases of recurrent carcinoma after operations upon the mammary gland. He thought that surgeons and medical men generally should study any means that there might be for the treatment of these cases. There had come up of recent years an operation quite away from the local field of the original growth that generally went by the name of "Dr. Beatson's operation," consisting of removing both ovaries. He considered that the operation was perhaps one which was justifiable under certain circumstances, not only from the possible good that might accrue to the patient, but also from the knowledge that might be gathered. In spite of the fact that no good had followed in a considerable number of the cases the operation, in his opinion, was justifiable provided the patient clearly understood its nature—namely, that it was the removal of both ovaries and that it was distinctly an experiment so far as her individual case was concerned, and provided further that the patient and her friends desired that it should be undertaken. Surely, the very fact that a certain proportion of cases had been benefited made the procedure right even if they could not hope for a complete cure. Although they did not know what were the exact points for and against the operation he thought that it was a subject which they ought to consider further and to investigate, because there seemed to be something in it which they did not quite fully understand.

Mr. STANLEY BOYD said that the results of a successful oöphorectomy were: (1) the relief of pain; (2) the vascularity of the nodules became reduced and the nodules shrank and disappeared in the course of a few weeks or months; (3) secondary nodules in the opposite breast receded more slowly; and (4) strength and weight were gained, the patient's spirits rose, food was taken better, and life presented itself to the patient in a different aspect. The question asked by a patient was, Supposing the cancer disappeared how long would it remain away? In order to answer that it was necessary to consider the indications which pointed to the most likely cases for affording the best results. 1. It was only in cancer of the breast that the operation, so far as they knew, was of any influence at all. 2. The amount of disease present provided it was local was not a contra-indication to operation. 3. Cancers of slow growth had yielded more favourable results than cases of acute cancer. 4. A larger number of good results seemed to have been obtained in patients after 40 years of age than before that age. 5. Obvious lesions of the viscera and bones had never been known to disappear after the removal of both ovaries, but it was possible, of course, that unrecognised nodules which were small had disappeared. They did not know, but it might be that the growth of some of those visceral troubles had been controlled or retarded by the oöphorectomy. 6. Complete establishment of the menopause had not been shown to be a contra-indication to the operation. There was very little experience on the subject. He had performed the operation in one case on a woman, 64 years of age, the cancer having been, so far as he could judge, a rapid one up to the time of the oöphorectomy, but it changed its character afterwards and he considered that it was retarded in its growth. With regard to the thyroid treatment he had not seen any good result from it. In his opinion they would get something good out of the x rays, and he had no doubt that the burning would be avoided in the future.

Mr. HENRY MORRIS communicated a paper in which he described how patients suffering from syphilitic ulceration, chronic inflammation, polypus of the rectum, and cicatrised

gastric ulcer had been sent into the cancer ward of Middlesex Hospital by competent practitioners as sufferers from inoperable cancer to linger there and to die, but had gone out cured. In the treatment of inoperable cancer pain, hæmorrhage, and the foul fœtor of the discharges were the leading symptoms which had to be treated. Morphia relieved the pain and so prolonged life in one way, but it caused loss of appetite and the skeleton-like frame which made the patients a terror to themselves and an appalling spectacle to others. For nausea or vomiting he had found that the most effective drugs were oxalate of cerium and cocaine given in one grain pills once or twice a day half an hour before food. For the fœtor of discharges in addition to frequent irrigation he used an ointment containing vaseline, eucalyptol, and iodoform. In some cases of cancer of the peritoneum, especially of secondary disease, it was remarkable how long the patients lived and how well they remained in general health, requiring, in fact, little treatment of any kind beyond frequent paracentesis abdominis. He had not found that patients would consent to undergo oöphorectomy when the empirical nature and uncertain effect of the operation were properly explained to them; he knew of no permanent benefit having been effected by it either with the administration of thyroid extract or without. In his experience thyroid extract for carcinoma of the breast had not been productive of any good. In no case which he had seen had the healing produced by the x rays been sound and permanent. The cases recorded as "recovering" or "under process of cure" had been, he considered, published prematurely. He thought that all of them would be found to retrogress either during the continuance of the treatment or soon after its discontinuance. The x rays produced the same kind of effects by a totally different process that Chian turpentine did in some cases. Mr. Morris concluded his paper by giving a list of cases of inoperable cancer which had been treated in the wards of the Middlesex Hospital by thyroid extract, by oöphorectomy and thyroid extract, by oöphorectomy without thyroid extract, and by the Roentgen rays.

Mr. C. RYALL thought that a great deal too much importance was placed on the treatment by oöphorectomy. His own experience was that by simple abdominal section in carcinoma of the abdomen considerable shrinking of the growth occurred and the inevitable was postponed.

Dr. HERBERT SNOW said that they knew that true sarcoma of the mamma did not affect the lymph glands. It could not be doubted that particles of sarcoma and cells were carried there, and a case of his own showed that the glands in the axilla were in active hyperæmia in such a case, but infection did not occur. Judging from the course of epithelioma on the wrist or on the foot he formulated the principle that the nuclear cells or infective particles of carcinoma must be destroyed either in the lymph current in these cases on their passage to the gland, or by the cells in the glands, or by some secretion in the glands. He had appealed in the columns of THE LANCET for some laboratory to take the matter up, but that was not responded to. In that direction only was there any question of real treatment worth the name for inoperable cancer.

Mr. C. R. B. KEETLEY said that everyone who accepted the hypothesis that cancer was probably due to some germ must realise that every case of cancer attended by discharge was a possible focus for spreading the disease.

Dr. F. H. LOW showed the apparatus used in the production of high frequency currents and the methods of their employment therapeutically. Locally applied a large number of skin diseases were being treated in this way and with very promising results. The general effect obtained was one of increased nutrition resulting in marked improvement in general health and tone.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Patients, Specimens, and Apparatus.—Chloroma.

THE fifth ordinary meeting of the present session of this society was held on Feb. 5th, Professor T. R. FRASER, the President, being in the chair.

Dr. WILLIAM STEWART showed a man who had suffered a Compound Dislocation of the Ankle, with Fracture of the Neck of the Astragalus and Removal of the Outer Malleolus (with stereoscopic photograph).

Mr. FRANCIS CAIRD showed a man, aged 61 years, who had suffered from Chronic Obstruction for two years, the bowels only acting once in two or three weeks. The abdomen was very greatly distended and splashing and gurgling were loud. The diagnosis was a carcinoma of the ileo-cæcal valve. At the operation a bobbin-shaped stricture of the ileum was found with involvement of the mesenteric glands. To get clear of the disease 70 inches of gut were removed at the first operation, and later the cæcum and a piece of the colon were removed (in all 80 inches) and the two ends were sutured. It was found that the infiltration was solely tuberculous. The patient had improved daily since the operation.

Dr. DAWSON F. D. TURNER showed: 1. A young woman who had suffered from Lupus Vulgaris. The disease improved very slowly under treatment by Roentgen rays. On Jan. 13th ultra-violet light treatment was begun thrice weekly with two and a half minute applications and at once great improvement was manifest. The patient had had in all seven exposures and she was practically cured. 2. A man who had suffered from Rodent Ulcer on the right side of the nose for eight years. It was of the size of a small mussel shell and was covered by crusts. The ulcer was one eighth of an inch deep. On Dec. 4th, 1901, x-ray treatment was commenced and the patient slowly improved. On Jan. 10th, 1902, ultra-violet light treatment was begun thrice weekly and after only three exposures the patient was almost cured.

Dr. TURNER also exhibited an Apparatus for Generating Ultra-violet Light. Acting on a suggestion of Mr. Leslie Miller he had been comparing the ultra-violet radiation of a Tesla spark-gap with that of an arc light. His apparatus resembled that which had been in use by Dr. Hugh Walsham of London and Dr. Görl of Nuremburg, and it consisted essentially of an induction-coil, a condenser, and a spark-gap of two or three electrodes. The ultra-violet radiation of this spark, as tested in his laboratory, was altogether of a higher order than was that of an arc lamp, while the heat radiation was almost negligible. Owing to this latter property the light could be brought within an inch or within two inches of the skin with very greatly increased effect. After a number of experiments as to relative transparency and convenience Dr. Turner preferred to use pure rock salt as a compressing agent. The clinical results obtained had been remarkable, an exposure of only two and a half minutes being amply sufficient to produce a marked beneficial effect.

Cases were also exhibited by Mr. CAIRD and Mr. PURVES, and card specimens by Dr. A. LOGAN TURNER, Professor T. ANNANDALE, Dr. GIBSON, and Dr. S. MCDONALD.

Dr. G. H. MELVILLE DUNLOP then read a paper upon a case of Chloroma, exhibiting microscopical sections and photographs. He stated that at the November meeting he had exhibited a little boy suffering from chloroma. The child died a fortnight later and he proposed to give a record of the case together with an account of the post-mortem examination and some brief notes on this rare and interesting disease. The boy, aged five years, was admitted to Dr. Dunlop's ward in the Edinburgh Royal Hospital for Children on Sept. 30th, 1901, complaining of great weakness and "swelling of the face." The family history was unimportant. The father had suffered from an attack of rheumatic fever and the mother from repeated attacks of bloodlessness. Two children had died during infancy. There was no family history of tubercle or of renal disease. As to the previous history it was elicited that the child was born at full term and was a healthy baby. He had had whooping-cough when he was six months old, measles when he was three years of age, and he had had frequent attacks of bronchitis, but was, on the whole, a healthy child. With regard to the present illness it was ascertained that for fully a year patches of ecchymoses were frequently noticed under the skin and were attributed to bruises. In May, 1901, the extreme pallor of the face of the patient was first noticed, and for some months previously it had been observed that any scratch which he received appeared to suppurate immediately. At the beginning of June a boy dipped him into a horse-trough. He remained in his wet clothes for some hours. The chill which he received kept him in bed for some days with fever and headache. The child was never the same after this and he seemed to get more easily tired. He commenced to call out in his sleep and to snore at night. His appetite became very poor and the pallor and emaciation steadily increased. At the beginning of August he became dull and languid and ceased to play or to go out-of-doors. On August

16th the mother noticed that his eyes were prominent and that the veins on the eyelids were dilated. This exophthalmos had gradually increased. Deafness was noticed about the middle of September and this had increased gradually. His teeth had always been bad and he had suffered from toothache since he was three years of age. At the commencement of October the child was treated for an abscess of the scalp and he had an attack of albuminuria accompanied by pyrexia which lasted for a few days. On admission he looked extremely ill; his weight was 39 pounds. His complexion was very pale and of a waxy, yellow tint. He could stand, or sit up, or walk. He was a quiet, placid, good-tempered child. A large number of petechial hæmorrhages, of about the size of, and having the appearance of, flea-bites were scattered over the skin of the whole body with the exception of the face. In addition there were two larger hæmorrhages over the spinal column and over the right knee, as also evidence of an old hæmorrhage on the right shin. The face was pale and pasty, with marked puffiness of the eyelids, especially of the left eyelid. Some œdema and marked anæmia of the conjunctivæ were noted, as well as considerable protrusion of both eyeballs, though the patient could close his eyes. There were a few slightly enlarged glands under the lower jaw on both sides, as also in the posterior triangles of the neck and in the groins. The axillary glands were not enlarged. The thyroid was normal in size, as also was the thymus. The respiratory and circulatory systems were normal, with the exception of a loud hæmic bruit heard on both sides over the vessels of the neck. The digestive system showed nothing abnormal with the exception of a very large number of carious teeth. The urinary system was normal. Hæmoglobin in the blood, 32 per cent.; red blood corpuscles, 1,800.000; and leucocytes, 24·5000. Films showed a large number of lymphocytes, both large and small, the former preponderating and numbering about 73 per cent.; polymorphonuclear, 17 per cent.; myelocytes, 5 per cent.; unclassified and transitional forms resembling myelocytes, 5 per cent. A few nucleated red cells were present. On Oct. 15th two fresh hæmorrhages had appeared and the eyeballs were becoming more prominent and the deafness was increasing. A hard, indurated swelling of a purplish colour was found occupying the hard palate on both sides in its whole extent antero-posteriorly, and a similar but smaller swelling was present on the right side of the lower jaw externally to the teeth. By the 22nd a smooth, rounded swelling had appeared in each temporal region extending into the orbit on either side. This was firm but not of a bony hardness, and was attached to the bone below but not to the skin. The diagnosis of chloroma was made at this date. A few days later the upper eyelids became infiltrated with firm, smooth swellings, as also the lower right eyelid. During sleep the eyeballs were only half covered by the lids. The ophthalmoscope revealed a minute hæmorrhage near the disc of the right eye. The retinal veins were tortuous and distended in both eyes. The appearance was like that of optic neuritis. On Nov. 6th a pale, greenish-yellow tumour of a jelly-like consistence appeared at the inner canthus of the right eye and it gradually advanced over the eyeball, covering its lower half. The left eye was affected similarly but to a less extent. The boy complained now of severe pain in the frontal region and photophobia was marked. The temporal tumours appeared to have diminished in size and the optic neuritis had increased in severity and the retinal hæmorrhages in number. By the 12th the growths had covered both eyeballs and the cornea were apparently quite destroyed. The leucocytes were now 107,000, the red blood corpuscles 815,000, and the hæmoglobin was 12 per cent. The boy died from exhaustion on the 16th. At the necropsy the spongy bone of the manubrium sterni was found to be of a dull greenish-grey colour. The lungs were pale, but they were interspersed with irregular patches of congestion and extravasations. Two small greenish areas were present on the surface of the heart. The ribs were of a green colour in their whole extent, the green being deepest just in front of the angles. The periosteum of the vertebræ from the neck to the pelvis was infiltrated and thickened with greenish tissue, continuous with that passing along the intercostal vessels and nerves. During the progress of the post-mortem examination the green colour gradually faded. Many minute hæmorrhages were present in the gastro-intestinal mucous membrane. The kidneys presented very striking naked-eye appearances, being very pale and of a pinkish-green colour and dotted over with distinct green spots under the capsule. On section numerous bright green areas varying in size from a pin's head to a quarter of an inch in diameter were found. These were chiefly found in the cortical areas near the medulla. The mesenteric glands were merely enlarged, while one or two greenish glands were found near the head of the pancreas and others in the same neighbourhood contained brownish pigment. The pancreas was of a pale, yellowish-pink colour and contained small greenish nodules in its substance. On reflecting the scalp green tissue was found extending along all the sutures, but it was confined to the pericranium and could be stripped completely off the bones. Underneath and infiltrating the substance of the temporal muscles new growths from a quarter to three-eighths of an inch in thickness were present; they were bright grass-green in colour. These had evidently developed from the periosteum and had extended deeply into the spheno-maxillary fissure. The diploë throughout was of a dirty greenish colour and over the dura mater numerous green patches were present. The brain and spinal cord were healthy. All the bones in the anterior part of the skull were infiltrated with dull green material. In the orbits numerous sharply defined masses were present surrounding the optic nerve and eyeballs and extending under the conjunctivæ. The soft palate, the walls of the pharynx, the tonsils, the mouth, and the gums were infiltrated with deposit. Numerous bones which were examined showed the presence of this green material in the medulla. Only 24 cases of chloroma had been recorded. The first case was recorded by Alan Burns in 1823. He regarded it as a condition differing from any morbid affection hitherto described. He thought that the new growth originated in the lacrymal gland. Recently Dock of Michigan and Gustav Lang of Nancy had written exhaustive monographs on the subject. The tumours had been variously described as green cancer, fibro-plastic tumours, amorphous fibrous tumours, and pigmented myxo-sarcoma or chloro-myxo-sarcoma. Huber defined the condition as a metastatic periosteal sarcoma and he maintained that the tumours always originated in the bones of the head and face and that the growths in other organs were secondary and were originated by metastasis. Recklinghausen, in 1883, stated that the tumours in chloroma differed in many respects from periosteal sarcomata and he insisted on the intimate relation between this affection and leukæmia. He showed that the structure of all the tumours in his case was of a pure lymphomatous character, and in this belief he was supported by Höring, Dock, and Chiari, and several other writers, with the result that the growths were generally regarded as belonging to the class of tumours known as lympho-sarcomata. "Lympho-sarcoma" was probably the best definition of the growths found in chloroma—resembling on the one hand lymphoma in their histological structure and sarcoma in the fact that they arose from the periosteum and that they spread by metastasis. Recently the view had been advanced by Cordua and Ricker that a very close relationship existed between lympho-sarcoma and tuberculosis. Regarding the cause of the colour of these tumours, which varied from a yellowish-green to a bright grass-green, considerable diversity of opinion was held. No bile pigment had ever been discovered in any of the tumours. Nor was it due to decomposition, as Dittrich suggested, for the colour was confined to the growths absent from the other tissues, and portions of the tumours removed during life had a green colour. Huber had made an elaborate investigation on fresh tumours to discover the source of the colour. He ascribed it to minute molecular granulations possessing great refractive power placed between the cells. Virchow, Dressler, and Chiari were at one with Huber in considering that the colour proceeded from the adipose granulations found in and between the cells. The colour quickly disappeared from periphery to centre on exposure to air or on immersion of the tumour in water, alcohol, chloroform, or ether. Dock, in giving his adherence to the fatty theory, considered that it was simply an exaggeration of the greenish tint so common in the neoplasms of leukæmia and which he maintained was another proof that these conditions were closely allied. In view of the quick disappearance of the colour on exposure to air and on immersion in fluids that had no solvent action on fats the theory of the fatty granules appeared difficult of acceptance, and Dr. Dunlop thought that the colour was more probably due to some chemical product allied to lipochrome, hitherto undiscovered, which on exposure to light became oxidised and in the process of oxidation lost its colour. It was admitted generally that the

tumours originated from the periosteum of the head and face, and they grew secondarily in other organs. Nearly every organ had been invaded by secondary growths in the cases recorded with the exception of the nervous system. The brain might be compressed by, but it was never invaded by, the tumour growth. Of the internal organs the kidneys were most affected, but in only one other case besides the present one was the muscular substance of the heart invaded. The bones were frequently so distended by the growths as to become translucent. Erosion or pitting of the bone was a marked feature in many of the cases. The consistence of the tumours varied from that of a soft gelatinous mass to a hard and gelatinous consistence. The cut surface was homogeneous, with or without fibrous septa, and no trace of blood-vessels was to be seen. Microscopically the tumours consisted of large round or oval-shaped cells slightly larger than a white blood corpuscle, containing many nuclei and nucleoli occasionally. These cells were either embedded in an inter-cellular amorphous material of a very clear and transparent character or in a delicate network. At other times the tumour was interspersed by coarse bundles of connective tissue. In the midst of this network the granules, with the highly refractile properties referred to, were found lying in and between the cells. Chloroma was chiefly a disease of children and adolescents, and boys seemed to be attacked to a greater extent than girls. With regard to the relationship of this condition to leukæmia Recklinghausen first noted it. Dock pointed out a further resemblance in the similarity of the symptoms. Thus deafness was common to both; in chloroma it was due to the pressure of tumours in the internal, middle, and external ears. In leukæmia, though sometimes ascribed to hæmorrhage, in many cases it was caused by the pressure of leukæmic tissue in the ear. Exophthalmos was common to both diseases, while progressive anæmia of a marked character—accompanied by petechial extravasations, epistaxis, and subconjunctival and retinal hæmorrhages—was found in both. So far as Dr. Dunlop had been able to gather the case which he described was the first in which a diagnosis of the condition was made during life. Before the appearance of the tumours a diagnosis would be impossible as the symptoms would be only those pointing to leukæmia. When subsequently to those symptoms exophthalmos, failing sight, deafness, and tumours in the temporal regions and in other parts of the body supervened the diagnosis of chloroma should always suggest itself. The prognosis was invariably fatal from exhaustion, the average duration being five or six months, although cases had been recorded lasting above two years.

Dr. BYROM BRAMWELL then read full notes of a case of Chloroma, and also of a case of Lymphatic Leukæmia. An account of these cases will be given in our next issue.

(To be continued.)

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Scarlet Fever.—Traumatic Functional Paralysis.

A MEETING of this section was held on Jan. 24th, Dr J. HAWTREY BENSON, being in the chair.

Dr. J. M. DAY read a paper on the Diagnosis of Scarlet Fever. This, he said, had now become a far more difficult matter than formerly when the disease was of a severer and better marked type. The chief symptoms of scarlet fever were vomiting, sore throat, elevation of temperature, frequent pulse, and a rash. If scarlet fever was present the red punctiform appearance on the pharynx, soft palate, tonsils, and hard palate would be found. The pulse-rate was quick, even in the mildest cases. The rash was never seen in the circum-oral zone. The skin was dry, but sweating might occur in rheumatic subjects. When the disease was accompanied by gastric catarrh the tongue was furred. Scarlet fever might occur a second time without eruption. Desquamation might commence on the sixth day, or might be delayed until the twenty-first day. It spread centrifugally from points. Scarlet fever might be confounded with rötheln, measles, septicæmia, urticaria, erythema, rheumatic fever, meningitis, enteric fever, and drug-rashes.—Dr. HAYES said that he had found the difficulty of diagnosis of scarlet fever most in adults. In mild cases there was no constitutional disturbance and the typical scarlet fever throat might be absent. He based his diagnosis principally on the punctiform rash of the hard and soft palate and the rapid pulse. Temperature was of little diagnostic value and desquamation was not easy of recognition in every case.—Dr. HEAD said that he thought that desquamation might be deferred for a longer period than 21 days. He spoke of a series of cases in which desquamation was deferred for a month. In the "fourth disease"[1] the skin peeled in large patches.—Dr. H. C. DRURY, Dr. J. F. POLLOCK, and others also discussed the paper.—Dr. DAY, in his reply, said that he did not know any surgical scarlet fever. There might be septicæmia with a rash or a surgical patient might contract scarlet fever. The period of incubation, he thought, was generally known—it was eight days. The infection was not so much due to the desquamation as was formerly thought. Any discharge, such as otorrhœa, might convey infection. He looked on the "fourth disease" as non-existent, being no more than a form of rötheln.

Dr. MARTIN DEMPSEY brought forward a case of Traumatic Functional Paralysis—a boy, aged about 12 years, who had fallen from a height a considerable distance on his right shoulder-joint. He did not appear to suffer much from the fall at the time. The joint was examined by means of the x rays and was rubbed with an anodyne liniment for weeks, but without benefit. The right arm hung helplessly by his side, with the fingers slightly flexed at their terminal joints. At the slightest touch the boy now complained of excruciating agony in the injured limb as low down as the elbow-joint; he could not recognise hot water in a test tube and yet had no difficulty in recognising the presence of cold water. All the muscles reacted to the faradic current. For two months the current was applied with distinct benefit, the boy regaining some of the power of the limb. He was now able to flex it and had a considerable grasping power in his hands. Dr. Dempsey looked upon the case as one of functional or hysterical paralysis, and his prognosis was favourable.—Dr. CRAIG agreed with Dr. Dempsey in his diagnosis. He had had a somewhat similar case in a girl.—Mr. W. LANGFORD SYMES said that he had seen many cases of functional diseases in the Great Ormond-street Hospital, London. A diagnosis might usually be made by throwing the patients off their guard. All of the cases were in boys and were associated with phimosis. Dr. Dempsey's patient had a long foreskin.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 31st, Dr. T. Churton being in the chair.—Mr. A. W. Mayo Robson read a paper on a series of cases of Fractured Semi-lunar Cartilage of the Knee-joint.—Dr. Churton, Mr. H. Littlewood, Mr. B. G. A. Moynihan, and Mr. R. Lawford Knaggs took part in the discussion, and Mr. Mayo Robson replied.—Dr. W. McGregor Young read a paper on the Advantages of a Bag Pervious to Air in Ether-giving. He said that air-limitation for all practical purposes was a necessity, but the question arose as to whether in using the ether-bag they did not go too far and produce often an undesirable state of anoxyæmia; certainly in unskilled hands this was apt to occur. It seemed to him that the advantages of the semi-open method in vogue in America might be combined with those obtained in using a Clover's regulating apparatus if instead of an air-excluding rubber bag a bag made of some porous fabric was used. Although by no means the only cause of cyanosis, the rubber bag was probably the most common one, and cyanosis was an undesirable and even dangerous condition and the reproach of ether-giving. Besides, the rubber bag was an unclean thing. Dr. Young showed the bag which he proposed as a substitute made of Holland linen. He claimed that with this bag cyanosis was avoided, and as regards cleanliness it was beyond reproach, for a fresh bag newly washed and starched from the laundry was used for each case. He had tried it in a very large number of cases with excellent results. Chloroform could be added to hasten the anæsthesia by simply dropping it on the outside of the bag. He found that the asphyxial factor being absent the corneal and pupillary reflexes were no longer indicative of the same depth of anæsthesia.—In the discussion which followed Mr. Mayo Robson spoke strongly in favour of Dr. Young's

[1] THE LANCET, July 14th, 1900, p. 89.

method.—Dr. T. W. Griffith and Mr. Michael A. Teale also took part in the discussion, and Dr. Young replied.—The following cases, pathological specimens, &c., were shown. Mr. H. J. Roper: A specimen of Amputation through the Forearm for Diseased Wrist-joint in a man, aged 68 years.—Dr. A. Bronner (Bradford): Two cases of Saddle-nose treated by Subcutaneous Injections of Paraffin.—Dr. C. Powell White: Urine from a case of Bilharzia Hæmatobium.—Mr. Littlewood: (1) A child, aged four years, with Volkmann's Contracture, treated by Tendon-lengthening; (2) Renal Calculi; (3) a specimen of Perforating Ulcer of the Upper Part of the Rectum producing General Peritonitis; and (4) a New Instrument—Forceps Dissector.—Dr. Churton: (1) Three patients recovering from Acute Cerebral Endarteritis (Syphilitic) with Aphasia; and (2) a Brain showing Syphilitic Endarteritis.—Mr. Moynihan: (1) A patient operated upon some months ago for supposed Malignant Disease of the Stomach (the tumour, of large size, adherent and irremoveable, had entirely disappeared); and (2) a specimen of Calculous Pyonephrosis.—Dr. Griffith: (1) Two cases of Heart Disease; (2) a case of Progressive Muscular Atrophy; and (3) (with Mr. Moynihan) a specimen of Perforated Gastric Ulcer.—Mr. Mayo Robson: (1) Double Pyosalpinx (tuberculosis); (2) Tubo-Ovarian Abscess; (3) Myxomatous Degeneration of Myoma Uteri—Hysterectomy; and (4) Growth of Mesentery, associated with Intestinal Obstruction by Band.—Dr. A. G. Barrs: (1) A case of Chronic Posterior Basic Meningitis—recovering; and (2) Tumour of the Brain (Pons).—Dr. J. B. Hellier: Double Solid Malignant Ovarian Tumour removed a fortnight after labour.—Dr. Allan: (1) Ostitis of the Tibia and Fibula after Chronic Ulcer; (2) Heart showing Dilated Pulmonary Artery and Lung with Infarcts from same; (3) Dilated Pulmonary Artery and Emphysematous Lung; (4) Dilated Pulmonary Artery from a subject with emphysematous lungs; (5) Large Kidneys; (6) Aneurysm of the Aorta and Very Small Kidney; and (7) Brain of an Epileptic.—Dr. E. F. Trevelyan: (1) A case of Early Locomotor Ataxia, and another suspected case of the same disease, both with preserved knee-jerks; and (2) a specimen of Tubercle Bacilli prepared from a hæmoptysis which occurred at the commencement of acute phthisis.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held on Jan. 29th.—Dr. J. Ivor Murray read a note on Hayling Island, where he had spent a fortnight, with the object of directing the attention of the society to the advantages of the island which was comparatively little known to medical men in London. He described the ozone-giving tidal mud of Langston Harbour, the tree-shaded roads, the golf-links, and the hard sands extending for miles and forming a very paradise for sea-bathers. The climate was mild, bracing, and remarkably free from rain and land fogs. The soil was mainly loam lying above chalk, with abundance of springs of good water. The place was a perfect one in which to reside in search of health, especially in the early stages of phthisis.—Dr. W. Ewart inquired whether the island presented any hilly ground and whether the prevalence of any epidemic disease was on record. It was much to be desired that the Fellows of the society should address themselves systematically to the climatological survey of the United Kingdom, a task of considerable magnitude but one well within the scope and the purpose of the society.—Dr. Joseph Groves (Carisbrooke) said that Hayling Island was often visited by gales from the south-west.—Dr. R. Fortescue Fox and Dr. G. W. Hamilton Cumming also spoke.—Mr. William Armstrong (Buxton) read a paper on Adjuncts to Spa Treatment, their Advisability and Value. He said that although it had long been the custom at foreign health resorts to use special physical and dietetic methods in aid of their natural waters and baths English spas had lagged behind, and it was only comparatively recently that it had been thought well to press such measures into service. It had been too much the custom to order the baths and waters as a matter of routine or to deny to the patient any treatment except by air, rest, and change; but the old method of routine prescription and of the treatment of spa cases in batches was rapidly giving way to the treatment of the unit and the personal study of the individual. He ventured to formulate the following propositions: (1) that as spa physicians had often such limited periods in which to cope with chronic ailments, and as so many of the cases presented to them were complicated in character and refractory to treatment, it was desirable that they should have at command the best methods of approved physical treatment; (2) that such methods in no way diminished the reputation and value of the natural resources of the spas where they were used and were, as a rule, much more effective when used in combination with natural baths and waters; and (3) that the provision of proper arrangements for dietary at English bathing stations was of the highest importance and might well engage the attention of the medical profession in general and of the British Balneological and Climatological Society in particular.—Dr. Ernest Solly (Harrogate) said that at the English health resorts the hotel managers fancied that to provide an elaborate *table d'hôte* paid them better than to give facilities to patients to fare simply.—Dr. Scanes Spicer pointed out the urgent need for reform in the dieting arrangements existing at most English spas by the substitution of the restaurant system (as seen in Austria at Carlsbad and Marienbad) for the English *table d'hôte* meals. The objection to the latter was that they continued the temptation to overeat which beset the well-to-do Englishman, lessening or nullifying the results of the whole treatment in gouty states, obesity, and abdominal torpor.—Dr. F. A. de T. Mouillot, Dr. W. S. Hedley, Mr. W. Bowen Davies, and Dr. Fox also discussed the paper.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held on Feb. 5th, Mr. Arthur Oakes, the President, being in the chair.—Mr. L. P. Gamgee showed a child upon whom he had operated for Spina Bifida more than a year ago. The tumour was in the lumbar region and was of the size of a Tangerine orange. The sac was opened, those portions of it to which nerves and cord were not adherent were excised, and the two erector spinæ muscles were brought together over the cord by means of silk sutures. A separate row of sutures brought the edges of the skin wound together. The patient was now perfectly well in every way.—Dr. J. Douglas Stanley showed a case of Insular Sclerosis occurring in a boy, aged 12 years. The chief symptoms were very marked intention tremor, high-pitched voice, and some lingual paralysis. Nystagmus was present, but there was not great exaggeration of the tendon jerks.—Mr. A. Lucas read notes of a case of Perforated Duodenal Ulcer, one inch from the pyloric orifice, which occurred in a man, aged 20 years. The edges of the ulcer were brought together with a continuous silk suture and were further closed by two layers of interrupted sutures. A drainage-tube was left in the wound, the remainder being closed. The subsequent course of the abdominal condition was in every way satisfactory, but the patient developed broncho-pneumonia and died on Dec. 29th, 1901. The necropsy showed that there was no peritonitis, but there was a little lymph forming adhesions about the seat of perforation. The ulcer in the duodenum was soundly closed.—Dr. C. E. Purslow showed a specimen of Double Pyosalpinx which he had removed by abdominal section from a young single woman. The patient when admitted to the Queen's Hospital, Birmingham, dated her illness from an attack of influenza from which she had suffered 12 months previously; ever since then she had felt pain in the abdomen and for five months she had lost weight and strength and had noticed a swelling in the abdomen. The tubes were equally enlarged, containing about five ounces of pus in each. The patient made a good recovery and was now at work again. The interest of the case lay in the etiology: there was no evidence of gonorrhœa and the hymen was virginal; no signs of tubercle in the lung or elsewhere could be discovered. An examination of the pus was made by Dr. J. D. Stanley, pathologist to the hospital, and he reported that it contained no micro-organisms. Dr. Purslow was driven to the conclusion that the suppuration must have been due to the attack of influenza.—Dr. A. Douglas Heath read a paper on Some Types of Eczema and their Treatment.

GLASGOW SOUTHERN MEDICAL SOCIETY.—A meeting of this society was held on Feb. 6th, Dr. John Stewart, the President, being in the chair.—The subject for discussion was the Management of the Third Stage of Labour.—Dr. James K. Kelly introduced the subject and in doing so he remarked that the process naturally divided itself into the separation and then the expulsion of the placenta. He discussed the theories held regarding nature's method of separation and described the plan associated with the name of Credé. After separation had taken place he recommended friction of the fundus of the uterus through the abdominal wall in order to strengthen the contractions and

to promote expulsion. When separation had not taken place within a reasonable time he adopted the plan of inserting the hand into the uterus.—Dr. J. M. Munro Kerr dwelt on the importance of giving time for the placenta to detach itself; he waited in some cases as long as 30 minutes. Separation was known by bulging of the lower part of the uterus, by the tapering of the fundus, and by the descent of the cord, the latter having been tied with tape at the vulva as an indicator. He concluded by discussing the theories held regarding the process of separation of the placenta.—Dr. E. A. Gibson dwelt on the necessity of giving time in the management of the third stage. When there was undue hurry and when pressure was applied there was risk of severe hæmorrhage. He did not recommend the giving of ergot in the third stage of labour.—Dr. W. K. Peden insisted on the necessity of giving time in the third stage and criticised adversely the application of pressure to the uterus before the placenta had separated. When separation was unduly delayed the best method, in his opinion, was to insert the hand into the uterus and to ascertain the cause of delay.—Dr. James Hamilton remarked that his policy was not to delay longer than 15 minutes for separation and expulsion. At the close of this period he made traction with his hand in the uterus. He did not advocate delay in the management of the third stage of labour.—Mr. Alexander Miller said that he only used Credé's method when the placenta had separated and was lying in the lower part of the uterus.—Dr. R. Jardine advocated a delay of 15 minutes in order that the placenta might separate. During this interval he steadied with his hand the fundus of the uterus to prevent relaxation and the filling of the cavity of the uterus with blood. Separation having taken place and the placenta lying in the vagina his method was to make traction on the cord. In cases of adherent placenta he introduced his hand and separated the placenta himself.—Dr. Malcolm Black said that he never inserted his hand into the uterus unless the circumstances strongly demanded it. He used Credé's method only after separation had taken place and the latter was known by the distance travelled by the cord ligatured at the vulva.—After some other members had taken part in the proceedings the President concluded the discussion and expressed the opinion that the third stage of labour was the most important of all. After separation of the placenta his practice was to use Credé's method, taking great care that no part of the membranes was left behind.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.—A meeting of this society was held on Feb. 3rd.—Dr. Urban Pritchard, the President, delivered a brief address, in which he referred to the interesting and valuable work done in the two sessions already held and he expressed the hope that some of the younger members would strive to find solutions of the difficult problems connected with non-suppurative disease of the middle ear.—Dr. L. Hemington Pegler, in conjunction with Mr. Richard Lake, showed a case of Double Subdural Abscess. Secondary pyæmic symptoms developed after the operation; the lateral sinus and brain were explored, and the patient made a good recovery.—Mr. P. Macleod Yearsley showed a patient upon whom the complete post-aural operation had been done without grafting, and had been followed with great improvement in the hearing power.—Dr. J. Dundas Grant showed a case of Cerebral Abscess attended with unusual features and in which recovery had followed operation.—Mr. L. A. Lawrence showed a Tortoise Shell Instrument consisting of a flat plate made to fit behind the ear, and of the same sort of use as the hand placed in a similar position. It was invented by an artist who was not in the least acquainted with any medical matters, but who found that his own deafness was benefited by using the instrument. In some few cases the instrument had certainly improved the hearing.—Dr. A. L. Whitehead made a brief communication on the Use of Adrenalin Chloride in the Mastoid Operation, and also read the notes of Two Cases of Aural Disease terminating fatally.—Dr. W. Jobson Horne showed a specimen of the Middle Ear destroyed by Tuberculosis, and also exhibited Microscopical Sections from the Integuments of the Temporal Bone demonstrating the presence of Tubercles and Tubercle Bacilli.

ROCHDALE AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on Feb. 6th.—Mr. W. P. Montgomery read a paper on the Treatment of Some Common Deformities of the Feet. He said that these conditions, giving rise to great discomfort, were usually either left to the surgical mechanician or subjected to operation. Much, however, might be done in the way of treatment by applying one's knowledge to each case. In talipes equino-varus up to the age of six months the varus deformity should be corrected by the moulding of the foot by the mother or nurse. The equinus deformity should be left till later. Plaster, boots, and artificial muscles were useless. Between the sixth and eighteenth months of life tenotomy of the tendo Achillis should be done and some form of splint should then be worn at night only and should be continued up to the age of five years. The child should also be trained to walk properly. In severe and relapsed cases more drastic operative measures would be required—e.g., tarsectomy. Such operations, however, left a short and inelastic foot. The occurrence of flat-foot was favoured by the position of the feet in the walk of civilisation—viz., the toes-out position. Boots also contributed to the production of flat-foot by leading to the formation of corns and bunions and consequently of faulty positions of the feet, also by inducing weakness of muscles from disuse. With a view to the prevention of flat-foot infants should be made to wear either sandals or light shoes, not boots. Afterwards the boot should be made on anatomical lines, with a straight inner side. Curative treatment should include rest, preferably in the tailor's sitting position. Tiptoe exercises should be practised daily and a mechanical support should be worn. Operation might be necessary in a bad case. The treatment of Morton's disease and that of deformities of the great toe and of hammer-toe were also discussed. With regard to deformities due to infantile paralysis, when these became fixed it had been suggested that the transplantation of the tendon of an active muscle to the site of insertion of a paralysed muscle might be of value.—Mr. Montgomery was awarded a cordial vote of thanks for his paper.

ÆSCULAPIAN SOCIETY OF LONDON.—A meeting of this society was held on Feb. 7th, Dr. Arthur T. Davies, the President, being in the chair.—Dr. T. G. Stevens discussed the subject of Displacements of the Uterus in relation to (1) the physical conditions giving rise to them (relaxation of suspensory ligaments, increase in the size, weight, and consistence of the uterus, relaxation or injury of the pelvic floor, and increase of intra-abdominal pressure); and (2) their treatment. Anteflexion he considered to be usually not a true displacement but a local malformation. Retroflexion and retroversion were sometimes congenital, commonly so when occurring in unmarried girls. These cases, if not associated with congestion, leucorrhœa, or menorrhagia, were best left alone. In married patients retroflexion was usually an effect of ovarian irritation with relaxation of the uterine ligaments, the uterus falling back into the hollow of the sacrum and being retained there by the pressure of the bowel which passed down in front of it. Relief of ovarian trouble was the first consideration. This object was best attained by ichthyol suppositories and vaginal douching. Replacement (bimanual) should precede the use of a pessary which at best was but a palliative measure. Operation alone was curative. In this connexion it was best to incise the peritoneum through the anterior fornix and to stitch the fundus uteri to the peritoneum of the utero-vesical pouch—vaginal fixation. Prolapse was of two kinds—(1) acute, produced by sudden strain and constituting really a hernia of the pelvic floor in which the uterus took part; and (2) chronic, due to gradual relaxation and subsidence of the peri-uterine tissues. The former condition was the more tractable and in young girls was often cured by tonic and dietetic treatment. The latter was very intractable. Pessaries did little good; glycerine plugs with a firm external pad were better. Of operative methods Dr. Stevens preferred ventral suspension by attachment of the urachus to the abdominal wall. In elderly women with great prolapse he advocated hysterectomy with removal of the upper third of the vagina, so as to form a firm supporting fibrous pillar in the vagina.—A discussion followed.

NORTH-EAST LONDON CLINICAL SOCIETY.—A meeting of this society was held on Feb. 6th, Dr. F. J. Tresilian, the President, being in the chair. The following cases and specimens were shown:—Dr. A. J. Whiting. A case of Nodding Spasm in an infant with rickets.—The President: A case of a Testicle for Diagnosis. It was considered to be a hæmatocele with thickened walls.—Dr. S. E. Dore: Some cases of Lupus under

treatment by Finsen's method. The cases, which had been previously shown to the society, presented marked improvement on their former condition.—Dr. G. N. Meachen: (1) A case of Leucotrichia Annularis; (2) a Secondary Syphilitic Eruption in a Psoriatic; and (3) a case of Tuberculide.—Mr. Horace Wilson: Specimen of an Undeveloped Uterus and Appendages removed post mortem from an epileptic.—Mr. Herbert W. Carson: A case of Pylorectomy 12 months after operation. The patient had put on two stones in weight since the operation and was in perfect health.—Dr. Arthur E. Giles: Specimens of (1) Hydrosalpinx associated with Myoma Uteri and a Small Ovarian Dermoid; (2) Myoma in a Double Uterus; and (3) Malignant Kraurosis Vulvæ.—The meeting was well attended and the exhibition of cases and specimens gave rise to considerable discussion.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 30th, Dr. C. H. Willey, the President, being in the chair.—Dr. D. Burgess showed a young woman with Bifid Uvula and greatly Hypertrophied False Cords. The true cord looked like the folds of mucous membrane and the voice was produced by the false cords. The patient's mother had a cleft palate. Dr. Burgess also read notes (1) of a case of Ataxic Paraplegia due apparently to lead-poisoning; and (2) of a severe case of Transverse Acute Myelitis in which the legs were flaccid, the knee-jerks were absent, and there was complete loss of power and sensation for over a fortnight. The patient was able to walk out of the hospital two months after the onset of the illness.—Mr. R. J. Pye-Smith showed a boy, aged 14 years, on whom he had performed Peters's operation of extra-peritoneal transplantation of the ureters into the rectum for congenital retroversion of the bladder. Rectal tolerance of urine had been soon established and the boy's condition had greatly improved during the four months that had elapsed since the operation.—Dr. W. S. Porter showed a specimen of Cerebral Tumour (glioma) and read notes of the case.—Dr. A. J. Hall read a paper on the Varieties of the Ringworm Fungus, their Clinical, Microscopical, and Cultural Characteristics, with some Observations as to their Distribution in the Sheffield District. The paper was illustrated by numerous microscopical preparations, cultures, photographs, &c.

Reviews and Notices of Books.

Nothnagel's Encyclopedia of Practical Medicine: Typhoid Fever and Typhus Fever. By Dr. H. CURSCHMANN, Professor of Medicine, Leipsic. Edited, with Additions, by WILLIAM OSLER, M.D., Professor of the Principles and Practice of Medicine, Johns Hopkins University, Baltimore. Authorised Translation from the German under the Editorial Supervision of ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania. London and Philadelphia: W. B. Saunders and Co. 1902. Pp. 646. Price £1 1s.

THE excellence of the series of monographs issued under the editorship of Professor Nothnagel has been recognised by medical practitioners sufficiently familiar with German to read these works, and the publication of an English edition will doubtless be most favourably received. A set of 10 volumes will be issued representing the most practical part of the work. These volumes will contain the essence of the entire work and the present series of essays has been selected with especial regard to the needs of the practical physician. At some later date volumes will be published on the more special and scientific subjects.

As indicated by the title, the volume now under consideration contains a translation of Professor Curschmann's important work on Typhus and Typhoid Fevers. The translator (Professor Alfred Stengel) has performed his task admirably and the value of the work is further added to inasmuch as Professor W. Osler has acted as editor and has made additions to the text where it has been deemed desirable. With the consent of Professor Curschmann these additions have been made so as to run smoothly with the original text. Numerous changes, necessitated chiefly by the work which has been accomplished since the issue of the German edition, have been thus made. To some of these we shall again refer.

Typhoid fever is first considered, and the essay is divided into sections instead of into chapters. The Morphology and Biology of the Typhoid Bacillus are fully discussed, and then follow some interesting remarks on the Vitality of the Typhoid Bacilli. The investigations of Chantemesse are referred to. This observer showed that artificially prepared and especially carbonated waters may in times of epidemic play an important rôle in the dissemination of the disease when used as presumably innocuous substitutes for ordinary drinking water. Typhoid bacilli have been found to retain their vitality in them for days, and even for weeks.

In dealing with the etiology of the disease another fact to which attention is drawn is that the bacilli of Eberth are relatively resistant to the secretions of the stomach, so that they may leave this viscus with their vitality preserved, especially if mixed with certain articles of food. Well worthy of perusal are the remarks on the Most Important Carriers and Modes of Dissemination of the Virus. Water is, of course, the main source by which infection is carried, although the germs may occasionally be conveyed in the dry state by being attached to particles of dust. The author entirely discards the theory that typhoid fever results from the swallowing or inhalation of putrid gases. This is in accord with modern bacteriological knowledge, although the idea is still held by those who have not followed scientific research.

We cannot express entire satisfaction with the arrangement of Section II. which is headed Pathology. The section is divided into a number of sub-sections. The first deals with the general "symptomatology" of the disease and a picture is sketched in outline of a moderately severe case of typhoid fever terminating in recovery in a previously healthy adult. A summary follows of the post-mortem conditions and then the clinical side is returned to, and an analysis is given of the individual symptoms and complications. Although each sub-section is excellent in itself the alternation between the pathology and symptomatology is confusing. The sub-section on the morbid anatomy has been brought fully up to date by the editor. The researches of Mallory are mentioned. He concluded that the changes which occur in the Peyer's patches are due to the action of a toxin produced by the typhoid bacillus and that a proliferation of endothelial cells ensues. These cells are phagocytic in character, and the swelling of the intestinal lymphoid tissue is due almost entirely to their formation. The necrosis, he thinks, is due to occlusion of the veins and capillaries by fibrinous thrombi which owe their origin to degeneration of phagocytic cells beneath the lining endothelium of the vessels. He describes a similar process occurring in the mesenteric glands and the spleen. These views are interesting as formulating a new theory on the formation of the intestinal lesions.

Dr. Curschmann's observations on the temperature curve are most instructive. Too much attention cannot be paid to the intermittent and remittent febrile types described and to the great irregularities of such curves. An observer who is unfamiliar with, and incapable of, interpreting them is exposed to the liability of great error in diagnosis and prognosis. The typical temperature curve in typhoid fever is well known, but atypical curves frequently occur, and the practitioner should be acquainted with this fact so as to avoid falling into serious error.

Much valuable work has recently been accomplished with regard to the changes which occur in the condition of the blood during typhoid fever. The results have been included in this volume. Thayer's exhaustive studies have been utilised, and the paragraphs on the localised lesions due to the bacillus—particularly of the bones, meninges, heart,

pleura, bladder, &c.—have been carefully revised and brought up to date. The changes which occur in the various organs throughout the body, especially in the circulatory organs, are duly recorded. The clinical symptoms of typhoid myocarditis, for instance, are minutely described. Dr. Curschmann points out that however alarming the disturbances due to this cause may appear to be they seem in general to be attended with little danger in cases of typhoid fever, especially when compared with the anatomically similar myocarditis of diphtheria. In the vast majority of cases, according to Dr. Curschmann's experience, complete subsidence of the symptoms takes place, and this is generally accomplished at the end of the febrile period, at times even somewhat earlier. He further states that he has never observed with certainty chronic myocarditis dependent upon typhoid fever. Some authorities have been inclined to lay stress on the cardiac affections which may follow in the train of typhoid fever, and there is evidently need for further clinical observations on this point.

Worthy of note are the remarks on Afebrile Typhoid Fever. The existence of this condition has been doubted, but the modern conceptions of the infectious diseases must of necessity lead to the belief that this fever may be wholly or almost wholly unattended with elevation of temperature, just as occurs in other infectious diseases, as, for instance, scarlet fever, measles, and variola. Dr. Curschmann agrees with the views of Strube and Fräntzel that these afebrile cases are not always of a mild character. He confirms the statement that severe fatal cases of typhoid fever in elderly, decrepit persons or in those debilitated by over-exertion, alcoholism, or chronic disease, may be entirely unattended with fever or may even be accompanied by a subnormal temperature. It would be interesting to know whether any such cases have occurred amongst the troops in South Africa. Considerable interest will naturally be attached to Dr. Curschmann's opinion on the value of the Widal serum diagnosis, upon which divergent opinions have been expressed. The value of the test has been challenged on the grounds that the reaction occurs even during health and in the presence of a number of diseases other than typhoid fever, especially apparently in acute infectious diseases. These apparent fallacies, however, have been explained; for it has been demonstrated that under the above-named conditions the reaction only takes place when comparatively large quantities of the serum to be examined are added to the culture. It has been found that the occurrence of agglutination with equal parts of serum and culture, even 1 of serum to 10 of culture, is of itself not conclusive of typhoid fever; and, further, that the development of the reaction with a dilution of 1 to 20, even 1 to 30 and 1 to 40, may also occur under other conditions, while a positive reaction with a dilution of the serum beyond 1 to 40 occurs almost exclusively in cases of typhoid fever. These observations should be borne in mind when the Widal reaction is tried; otherwise errors may arise, more particularly in children. A paragraph has been added by the editor on Preventive Inoculation. In common with most authorities, however, Dr. Osler withholds a definite opinion but remarks that so far as the statistics yet reported from South Africa are concerned "the experience ..... is strongly in favour of inoculation."

Turning now to the part of the volume dealing with Typhus Fever we again find much that is interesting and instructive. The etiology is naturally first considered, and the author remarks that "although ..... we are quite certain that the contagion of typhus fever is a specific poison, elaborated solely within the body of the patient, and, therefore, undoubtedly referable to pathogenic micro-organisms, and although a great deal of useful investigation has been devoted to the subject, we are still in the dark as to its precise nature. Not one of the many micro-organisms brought forward up to the present time has gained complete recognition." Doubtless further investigation will in time solve the problem. In considering the origin and mode of transmission of the contagion Dr. Curschmann says: "Owing to the extreme facility with which the disease is carried from individual to individual sporadic cases of typhus fever are very rare." We cannot altogether agree with this statement. Epidemics of typhus fever are fortunately now of rare occurrence, but sporadic cases are not so uncommon as the author seems to indicate, nor is the infective power of such cases as marked as in the epidemic form. The morbid anatomy and symptomatology of the disease are described in a most interesting and thorough manner. The coloured plate of the eruption is a faithful reproduction of a characteristic case. The remarks on the differential diagnosis are also worthy of note.

In describing the treatment of the disease the author naturally lays great stress on the general management of the patient. He insists that the sick-room should be as large and airy as possible and afford the greatest amount of rest to the patient. He uses the term "open-air treatment" and states that he cannot say too much in favour of it. By adopting this measure he finds that the patients become quiet and that the violent headache and insomnia are more influenced by it than by any other means. The following sentence is also significant: "It is to the strict use of these measures that I attribute the fact that not a single physician was infected and that the percentage of hospital attendants who contracted the disease was conspicuously low during the three years from 1876 to 1878, when all the cases of typhus fever occurring in Berlin were admitted to Moabit and treated by the open-air method."

We welcome a translation into English of this excellent Encyclopædia of Practical Medicine. The first volume contains a vast amount of useful information and the forthcoming volumes will be awaited with interest.

La Lutte contre la Tuberculose. Par le Dr. R. ROMME, Préparateur à la Faculté de Médecine de Paris. Paris: Masson et Cie., Éditeurs Libraire de l'Académie de Médecine; Gautier-Villars, Imprimeur-éditeur. Pp. 190. Price 2 francs 50 cents.

THIS little book is one of a series of the publications of the "Encyclopédie Scientifique des Aide-mémoire" which appear under the general editorship of M. Léauté, a distinguished member of the Institute of France. Up to the present time 300 volumes have been published, 24 having been produced each year; and of these one, "L'Alcoolisme et la Lutte contre l'Alcool en France," was contributed by Dr. Romme, the author of the present volume.

Dr. Romme's book deals with the problems presented by the effects of tuberculosis viewed from the social and economical points of view. In France, as the author points out, the social aspects of tuberculosis are particularly urgent and that for more than one reason. In the first place, the population, instead of increasing, tends rather to remain stationary or to decrease. The loss to France through tuberculosis of 150,000 persons annually is a grievous one. This loss is the more severely felt because it deprives the country of the services of her citizens at a period of their lives at which in the ordinary course they would be most useful. The disappearance of this living capital, Dr. Romme says, is a terrible disaster, and he takes what we venture to hope is a too gloomy view of the future prosperity of his country, which is at present, he says, crushed by taxes and depressed by a decline of trade. The author goes on to point out, truly enough, that insanitary houses, want of light and of air, insufficient nourishment, overwork, and the abuse of alcohol—in a word, unhygienic conditions—play

a great part in causing the spread of tuberculosis, and a part perhaps as important as the inhalation of the bacillus of Koch. The book was written to show what means have been adopted for the prevention of the disease and to supply the evidence necessary to appraise these at their proper value. After a preliminary chapter on the etiology of tuberculosis in its social aspects the author gives an account of pulmonary tuberculosis in its relations to the conditions of work in England. He then describes the German "sanatoriums," the way in which the money is provided for their support, and the manner in which they are managed. In the last chapter he insists on the necessity from a national point of view of the establishment of sanatoriums in France. Amongst the appendices there is a rather curious document called a "catechism against tuberculosis" which has been drawn up by one of the local sections of the "Ligue Nationale Belge contre la Tuberculose." This catechism teaches as articles of obligation that 90 per cent. of the total number of cases of tuberculosis are derived from infected sputa and that tuberculosis is curable, but that the cure is difficult and can only be carried out under special conditions, that neither the rich nor the poor can carry out these conditions at home—that the cure can only be effected at "special establishments." The case for sanatoriums does not need, and will be prejudiced by, such statements.

The book itself is well written, the facts are clearly stated, and the arguments founded on them are logical. It should be read by everyone interested in the subject—and it is a subject of universal concern.

Handbook of Bacteriological Diagnosis for Practitioners, including Instructions for the Clinical Examination of the Blood. By W. D'ESTE EMERY, M.D., B.Sc. Lond., Lecturer on Pathology and Bacteriology in the University of Birmingham. London: H. K. Lewis. 1902. Pp. 215 with two plates. Price 5*s.* 6*d.*

FOR this excellent book, one of "Lewis's Practical Series," we have nothing but praise. It is eminently practical, concise, and accurate. To instruct the practitioner how to make his own bacteriological diagnosis, or, if this be not possible owing to lack of appliances, to teach him how to collect and to send material so that it may reach the expert in such a condition that it may be satisfactorily examined and a trustworthy report furnished, is the perfectly definite aim of the author, and he does not allow himself to stray from the direct path to his object. How often material is not properly collected and sent the expert knows only too well. With the author's opinion that a bacteriological examination which is made by one person and interpreted by another, or which is made on material which has passed through more hands than one, loses much of its value, we thoroughly agree.

The book is divided into three parts, treating respectively of Apparatus and Processes, the Diagnosis of certain Diseases, and the Collection and Examination of certain Morbid Materials. The instructions in the first part are clear and accurate and are evidently written by a practical worker and teacher. Of course, opinions differ as to the relative value of methods and the details of their execution; thus we see no advantages in the method described for the inoculation of tubes over the old plan and should reverse the advice as to the form of pipette (p. 42) to be chosen for the collection of blood for Widal's reaction and for cultural examinations respectively. In describing spore-staining in anthrax (p. 67) a confusion of two methods has crept in; dilute sulphuric acid is used to decolourise the bacillus, but in the next sentence the decolourising agent is spoken of twice as spirit. The second part is also very good both in the restraint the author shows in the selection of materials to be examined and the methods to be employed as well as in the sobriety and common sense of the interpretations of the results. The only exception we take is to the implied medico-legal value of the microscopical examination for the gonococcus. There is a mistake in the reference on p. 57 to the figure of the tetanus bacillus. The diagnosis of enteric fever is carefully described and the successive steps of the method should be easily followed. Stress is rightly laid upon obtaining sufficient blood for the examination; it is a common complaint that too scanty a supply is sent. The test does not require much blood and the amount can usually be easily obtained in a pipette drawn out at each end without employing suction. The examination of hairs for the ringworm fungi is well described. The third part concerns the collection of morbid materials. Throughout this portion, as indeed throughout the whole book, there is an appreciation of the difficulties met with by the practitioner cut off from laboratory appliances and there are many excellent practical hints for meeting these difficulties. The methods for the collection of spinal fluid by lumbar puncture and for obtaining blood are fully given. The book ends with a description of methods for cutting and staining sections. We would strongly recommend this book to practitioners.

Selected Researches in Pathology. By A. GUNN AULD, M.D. Glasg., M.R.C.P. Lond. With Illustrations. London: J. & A. Churchill. 190-. Pp. 160. Price 6*s.*

THIS volume contains a selection from Dr. Auld's investigations in various branches of pathology. Most of the results have from time to time been brought before some of the medical societies and subsequently published in Transactions and medical journals. The essay on Emphysema and that on Bright's Disease appeared in our own columns; in the volume now under consideration the remarks on the latter condition have been re-written and new observations are incorporated.

Perhaps the most interesting chapters in the book are those on Pneumonia. The subject-matter relates entirely to the pneumococcus, or diplococcus lanceolatus of Fraenkel, its chemical pathology, and the action of its toxins in rabbits. The pneumococcus is a difficult organism to work with, owing mainly to the fact that its virulence quickly dies out. Dr. Auld finds, however, that when preserved in blood the organism will retain its virulence for months. The method which he employs is to take up the blood from the heart directly with a small specially made pipette. The ends of the pipette have each a constriction near the bulb (in its centre). The bulb being filled, or nearly so, with the blood, the constrictions are sealed by heat. Preserved in this fashion the organisms remain active for months.

Dr. Auld's experiments relating to the methods devised for raising the strength of pneumococcus toxin and the effects produced by the injection of the toxins into rabbits in connexion with the process of immunising are rather difficult to follow; he himself admits that the research is "only fragmentary," nevertheless certain interesting results were arrived at. It is known that some individuals suffer more than once from an attack of pneumonia. Dr. Auld shows that the action of the toxin of pneumonia is injurious, and that this action is of very long duration, far outliving the presence of the immunising "anti-bodies." To this prolonged action he ascribes the susceptibility to future attacks.

Other chapters in the book deal with hæmatogenous jaundice, Addison's disease, atheroma, and aneurysm, the chapters on the two last-named conditions being the joint production of the late Professor Coats and Dr. Auld.

LIBRARY TABLE.

The War in South Africa: its Cause and Conduct. By A. CONAN DOYLE. London: Smith, Elder, and Co. Supplied through George Newnes, Limited. 1902. Pp. 156. Price 6*d.*—This unpretending little book should be read by everybody

who wishes to have a clear idea of the origin and course of the present South African War. The facts are plain and there are no rhetorical flourishes to make out that black is white. From the preface we learn that Dr. Conan Doyle and his publisher wish to translate it into all European languages and to send a free copy to every deputy and every newspaper on the continent and in America. We do not suppose for one instant that Dr. Conan Doyle's *résumé* will have the slightest effect upon the baser kind of continental detractor of the British Army or upon the unpatriotic kind of person of our own country who writes about "Hell in South Africa," or who seizes upon flying rumours to put "Reported Loss of a British Transport" upon a newspaper poster, or who talks about "methods of barbarism." Such people would not believe if an angel came down from Heaven and told them that the war was being waged with as much humanity as is consistent with any war. But for those who are merely ignorant Dr. Doyle's little book will be as a light shining in a dark place. An appeal is being made to the public for funds to further the distribution of the book and we are sure that it will be well responded to.

The Harveian Oration, delivered before the Royal College of Physicians of London on Oct. 18th, 1901. By NORMAN MOORE, M.D. Cantab. London: John Murray. 1901. Pp. 59. Price 2*s.* 6*d.* net.—We are glad to see Dr. Norman Moore's Harveian Oration reprinted in a form so handy to read as the volume now before us. Everyone who heard Dr. Moore's scholarly oration delivered, or who read it as printed in our issue of Oct. 26th, 1901 (p. 1097), will welcome it. Dr. Norman Moore had an inspiriting theme and he treated it in his own fashion. He is always happy in his literary treatment, and whether he is discussing the pathological processes which led to the death of Chlodowig, or Merlin—if indeed he be dead—or talking about Celtic mysticism or disputing on the difference between the Bogomiles and the remnant of the Christians of St. Thomas, he is always interesting. Mr. Murray is to be warmly commended upon the style in which he has issued the Oration.

Gonorrhœal Arthritis. By L. VERNON-JONES, M.D. Dub. London: H. K. Lewis. Crown 8vo, pp. 52. Price 2*s.* 6*d.*—This little book consists of three chapters dealing respectively with the pathology, symptoms, and treatment of gonorrhœal arthritis. With regard to the first Dr. Vernon-Jones has taken the trouble to collate the various bacteriological information on the subject and states the position of our knowledge clearly if rather narrowly. This chapter is the most satisfactory of the three, for the two others are very attenuated. The preface explains the appearance of this little book by the "absence of any work on the subject." This being so, Dr. Vernon-Jones should certainly have gone more exhaustively than he has done into the important question of adequate treatment for this far from uncommon complaint. So far as his work goes it is good, but having embarked upon it we wish he had gone further.

The Lemco Cookery Book. Compiled by Mrs. H. M. YOUNG. London: Liebig's Extract of Meat Company, Limited. 1902.—This is a handy little book, containing 180 everyday receipts for soups, fish, entrées, poultry and game, gravies, sauces, and sweets, with a few novel invalid dishes. Its object is to point out that the Liebig Company's Extract of Meat will mix with everything to the advantage of the dish, and, though the author may be thought to protest too much, those of the recipes that we have tried were thoroughly successful. We understand that the Liebig Company is distributing a quarter of a million of these cookery books from house to house.

JOURNALS AND MAGAZINES.

The Medical Magazine for January contains one article of unusual merit. This is a contribution from Dr. G. H. Savage upon "Conditions other than Heredity as Causes of Insanity," and it is worthy of perusal by every practitioner. Moreover, the originality and simple clearness of Dr. Savage's method of demonstrating his facts and theories make this address an unusually pleasing piece of reading. The main theme of Dr. Savage's article is contained in a passage near the beginning, where he says that "very much of the mental disorder which we meet arises from the immediate surroundings of the individual, and that certainly in many cases the sufferer is the cause of his own trouble." This is not only a true but a cheering view of the case, for where all steps are not precluded by the fixed idea of an inevitable hereditary taint patient and practitioner will alike approach treatment with sanguine determination. The rest of the magazine deals mainly with legislation and statistics.

ERRATA.—*Diseases of the Nose and Throat.* By J. Price-Brown, M.D., L.R.C.P. Edin., &c. In the review of this text book under the heading "Library Table" in THE LANCET of Feb. 8th, 1902, page 381, it was incorrectly stated that the price of the work is 7*s.* 6*d.* The price should have been notified as 16*s.* net.—*The Healing of Nerves.* By C. A. Ballance, F.R.C.S., and Purves Stewart, M.A., M.D. In the review of this work delay in publication was attributed to Mr. Ballance's absence at the war. It was Dr. Stewart who was serving in South Africa.

New Inventions.

THE CALLIANO BELT FOR THE PREVENTION OF SEA-SICKNESS.

MESSRS. ARMAND CLICQUOT AND CO., of 19, St. Dunstan's-hill, London, E.C., have submitted to us two specimens of a belt for the prevention of sea-sickness which is the invention of Dr. Calliano, an Italian medical man. The belt is made of jean or some similar substance, stiffened in places with "bones." In fact, it is like an ordinary waistbelt, and is about six inches in depth. The novel feature of the belt is a heart-shaped pad affixed to the middle of the belt. The method of use is as follows. The belt is buckled round the chest next to the innermost garment, the apex of the pad being uppermost and fitting into the apex of the costal angle. The centre of the pad thus presses on the epigastrium, and pressure can be regulated to any extent by means of a screw. An abdominal belt of some kind has long been known as a good thing for sea-sickness and is supposed to act by pressure on the viscera. In Dr. Calliano's belt the pressure is more particularly directed to the cœliac plexus. We submitted two belts for trial to two travellers. In one instance, however, the belt did not get a fair test as the Channel was crossed in a dead calm. The other traveller who kindly consented to try the belt for us was a lady going by sea to Tangier. She started from Southampton and crossed the Bay of Biscay in very rough weather. We give her experience in her own words: "I buckled it on the first morning and found it most uncomfortable. I had to wear it without stays and I cannot say it was anything but disfiguring and I felt qualms all day and after dinner was very sick, so next day I did not wear the belt as I thought I might as well be sick in comfort." Of course, it is impossible to judge of the value of this appliance from one instance and it is only fair to say that Dr. Calliano says that the belt does no good in the nervous form of sea-sickness. Also plenty of people have apparently testified that the use of the belt has prevented them from being sea-sick. But that there is any one cure for sea-sickness we do not believe. We fear that the disfigurement alluded to by our "tryer" will be fatal to the extensive use of the belt by the female sex. If a woman is sick in her cabin no one need see her, but if she is seen in an unbecoming belt and is not sick she will probably be more uncomfortable than if she were ill and unseen. But for the mere man we think it very likely that in certain cases Dr. Calliano's belt will prove very useful

THE LANCET.

LONDON: SATURDAY, FEBRUARY 15, 1902.

Panics and Publicity.

IN the dark days of 1899, when untoward events in South Africa cast a heavy gloom over all men's minds and were filling their mouths with bitter reproaches or hopeless anticipations, there were not wanting, especially among the older members of the community, those who deplored the amount and facility of news. Little reverses, they said, were placarded, published, and talked about till they assumed the size of real disasters; and a loss of men which in the days of WELLINGTON, for instance, would have gone unknown for months, and would have been disregarded when realised, set people nowadays in a perfect fever of alarm and apprehension. Like a story repeated from mouth to mouth, a piece of news lavishly printed becomes wildly exaggerated. A slight reverse, well headlined, placarded at every street corner and discussed in every club, assumes the proportions of a great defeat. A little space of time shows the true proportion of things, and by to-day people are ashamed of the fears that they allowed to possess them in the early times of the South African Campaign. We deeply sympathise with the apprehensions of those who have relatives and dear friends at the war, but they, in common with the rest of the public, have learned that sensational and inaccurate word-pictures save no lives and allay no fears, but serve rather to depress the *morale* of the country.

Yet the lesson has not been so well learned but that a small epidemic of small-pox in London is able to create what almost amounts to a panic in the minds of people all over the United Kingdom. The fear to which the present attack of small-pox has given rise in some breasts would be ludicrous were it not that such terrors, however ill justified, have a serious effect upon the business of the nation and the prosperity of London. It is hardly credible that an epidemic like the present—a little epidemic in which, roughly speaking, one person in 7000 has been attacked—should give rise to anything approaching panic anywhere. Yet such is in reality the case. There is definite evidence, not only that private individuals shrink from visiting London in the usual way, but that business is interfered with by a dread of the epidemic, and that even the rents of houses for viewing the Coronation procession months hence have fallen enormously. Such a state of alarm is unreasonable and ill-advised, and is, we feel sure, merely an unintended effect of that general newspaper publicity to which allusion has already been made. A man reads of 30 fresh cases in large type, thinks the times of pestilence are here again, and fears that London is unsafe. The next day he learns that the fresh cases amount to 90 and that in the opinion of a leader writer the local authorities are supine, or the London County Council is inept, or the medical profession is ignorant—or all three. He is thus confirmed in his uneasiness. Much more rightly he should reflect that with vaccination and revaccination and ordinarily healthy surroundings he is practically rendered immune, so far as small-pox is concerned. He has no excuse in the lack of good example. Always of sound judgment and correct action where medical matters are concerned, HIS MAJESTY THE KING has never pointed the proper course with an apter hand than he is doing at the present time as regards London and the small-pox. The entire Royal Household having been submitted to revaccination the Royal Family stay largely in London and frequent public places with the most conspicuous freedom. Whether such action is or is not taken with the direct intention of restoring confidence that may be shaken in the absolute safety of London, at any rate it should make timid citizens ashamed not to follow the footsteps of the KING when the path of wisdom that he treads is as open to the lowest commoner as it is to Royalty itself. Vaccination, revaccination and cleanliness are available for every inhabitant of this country. Let men and women avail themselves of the aid which medical science puts before them and lay aside fear, one of infection's closest allies, and they need not hesitate to dwell in London or anywhere else where an outbreak of small-pox is all that terrifies them. This advice is certain to be given by our readers. We wish that our brother journalists who appeal to the great public would take the same line. It is really important that the country at large should know that London is not a city of death, to be avoided by the business man and the pleasure-seeker alike, for the welfare of the whole empire is inextricably bound up with the fortunes of the capital.

One more consideration should shame people out of fear in the present instance. No Englishman, probably, would care to admit to feeling fear where a Frenchman was fearless. Yet this very London epidemic that is causing so much alarm is probably the offspring of a more serious outbreak in Paris that gave rise to a far less amount of apprehension. It will be a new circumstance in the history of this nation if we have to point to the imperturbability of the Parisian and to beg our countrymen to endeavour to imitate it under similar circumstances. Small-pox is a loathsome disease and may well be dreaded. We are not belittling the need for all possible precaution. But what we wish to insist upon is this, that against small-pox we have happily an admirable safeguard in proper vaccination and revaccination. Let the present outbreak make Englishmen and Englishwomen insist upon the proper utilisation of these preventive measures in their own cases, and in the cases of those dependent upon them. Then let them face the situation, by no means a terrible one, with the imperturbability that has hitherto always been associated with our national character and that is at the present time so finely exemplified by the reigning Sovereign.

The Surgical Treatment of Hepatic Abscess.

WHEN we seek to discover the latest teaching as to the treatment of any disease it is but natural that we should turn to those countries where the disease in question is

most prevalent. Probably in no part of the world is abscess of the liver more frequently met with than in India, and therefore a discussion between officers of the Indian Medical Service on the Surgical Treatment of Hepatic Abscess must be of interest for surgeons all over the world. A paper on this subject was read recently by Lieutenant-Colonel J. MAITLAND, I.M.S., before the South Indian Branch of the British Medical Association, and in the discussion which followed many other surgeons joined, and the lessons to be learned from their remarks may well be recorded. For abscess of the liver, though rarely seen in this country, is not unknown. We have now practically abandoned the etiological distinction between the solitary abscess of the liver and the multiple abscess, the former being considered the type of the tropical abscess and the latter the form met with in temperate zones; though it is recognised that in the multiple variety the bacterial infection is probably different. It cannot now be doubted that in both forms of hepatic abscess intestinal ulceration is the starting-point of the disease and that dysentery is the most common form of ulceration of the bowel which gives rise to abscess of the liver.

The opinions maintained in this recent discussion at Madras may be set forth as follows. That the pus should be evacuated as soon as it is diagnosed all surgeons agree, but the diagnosis of the presence of pus is intimately associated with the treatment. Sometimes the symptoms and the local signs are very distinctive so that there can be no room for doubt as to the existence of an abscess, especially when the abscess is very large or very near the surface of the liver. If, however, the suppuration should be deeply seated the diagnosis becomes much more difficult and it is in these cases that many surgeons are inclined to favour an exploratory puncture with a hollow needle for the purpose of diagnosis; but this view found no favour at the Madras discussion. That by this method the presence of pus may be ascertained is obvious, but against the practice there are many and weighty objections on which Lieutenant-Colonel MAITLAND laid much stress. In the first place there is great risk of hæmorrhage. It has been said that the chief danger of bleeding arises from a possible wound of the inferior vena cava and, therefore, it has been recommended that the needle should not be allowed to penetrate more than four inches, for then the vena cava could not be injured. This advice would be sound if the hæmorrhage could come only from this vessel, but it cannot be doubted that the liver substance may bleed, even to a fatal issue, although no vessel of any great magnitude has been wounded, and Lieutenant-Colonel MAITLAND in his paper quoted a case in which he had seen this unfortunate result occur. Great as is the danger from hæmorrhage, greater still is the risk from infection of the peritoneum. It is quite exceptional for the peritoneal surfaces over the abscess to be adherent, and, therefore, if the exploring needle has met with pus, it is almost inevitable that as the needle is withdrawn a drop or two of pus will be left in the peritoneal cavity, though if the operation for evacuation of the pus follows immediately on the exploratory puncture the danger of setting up a general peritonitis will be much lessened. Moreover, as Captain W. J. NIBLOCK, I.M.S., pointed out, it may happen that great difficulty may be experienced in finding the abscess at the second operation, although the exploring needle had previously shown the presence of pus. Therefore, it may be laid down with certainty that if any exploratory puncture be made the operation of emptying the abscess should follow immediately. Since in most cases of hepatic abscess the right lobe is implicated the transthoracic operation is generally required. A hollow needle is first introduced and when pus has been found an incision close to the needle, with or without resection of a portion of a rib, lays open the pleura, the two surfaces of which are stitched together around the wound. The diaphragm is next divided, with its subjacent peritoneum. The two peritoneal surfaces may then be stitched together or gauze packing may be used. The pus is best evacuated, not by any form of aspiration, but by incision. There is no real danger of hæmorrhage from the substance of the liver when the wound is visible, for packing with gauze will always restrain it. The further stages of the operation are simple—the abscess cavity is irrigated and drained and treated in accordance with ordinary surgical principles. The results are eminently satisfactory, the general rate of mortality being very low.

Such may be looked upon as the most modern method in India of treating the solitary abscess of the liver and the most experienced surgeons in Europe would not suggest any more than unimportant modifications of this operation. In this country we hear too little of the very extensive, arduous, and important work which is done by our colleagues in distant dependencies of the British Crown. With the unrivalled opportunities they possess for the diagnosis and treatment of the diseases prevalent in tropical and subtropical climates, their conclusions and methods of practice should prove of the greatest value to surgeons in all parts of the empire, and the record of their work will always be received with full appreciation in this country.

Surgical Operation for Mitral Stenosis.

A NOTE by Sir LAUDER BRUNTON published in our columns last week contains a sufficiently heroic therapeutic suggestion. It calls attention to the grave effects of stenosis of the mitral valve and to the possibility that relief might be obtained by a surgical division of the diseased valve. With an ambition to bring relief to these patients Sir LAUDER BRUNTON obtained a licence and certificates a year ago to enable him to test on animals the validity of his suggestion. We gather that he has proceeded no further than the table of the dead-house in making his investigation, and having many other claims upon his time he now publishes the suggestion in the hope that others will complete what he has begun. This is a somewhat unusual course to pursue and we think that Sir LAUDER BRUNTON would have been better advised to have himself completed his experiments, even at considerable inconvenience, rather than to incite others to pursue a path into the unknown which must be beset with very grave difficulties and responsibility. The experiments on animals which he advocates require considerable delicacy

and skill on the part of the experimenter, and we have a strong feeling that the man with whom the idea originated is certainly the most fitted to cope with the initial difficulties and to bring the experiments to a satisfactory conclusion, if that be possible.

Having taken this preliminary objection to the form in which the proposal has been published, let us consider the proposal itself. As it is only a suggestion and the operation has never been performed we can only fall back upon *a priori* arguments. And we are all aware how fallacious such arguments are. How many of the great advances which have raised surgery to its present exalted position have been ruthlessly condemned on *a priori* grounds? The surgery of the brain, the stomach, the spleen, the liver, and the uterus has all been advanced and almost perfected in spite of weighty *a priori* reasons against the procedures which are now known to be useful. So that, as a general rule, we deprecate such a line of reasoning. Experiment and observation are the "weapons of our warfare," and the only ones in which we have much confidence. But SIR LAUDER BRUNTON'S proposal challenges criticism in two directions—the difficulty of the operation and the doubt as to its efficacy, even if successfully carried out. On a dead and motionless heart the division of the mitral valve through a fine puncture in the ventricle is a difficult and very delicate step. But when the operation is complicated by the rapid movements of the auricle and ventricle and the respiratory movements of the chest it is plain that the operation is beset with very grave difficulties—difficulties that only the boldest surgeons, with the best-balanced sense of the limitations of their science, could for a moment face. We think that these difficulties have been under-estimated and that the very technique of the operation will prove fatal to its adoption. The introduction of a fine knife through the ventricular wall would have to be done rapidly, and then the manipulation of the knife into the orifice between the deformed cusps of the mitral valve and the section of the valve would also have to be accomplished very rapidly; and all this in conditions most embarrassing and most destructive of that entire self-control which is the chief secret of success in rapid and exact surgical manœuvres. But were this difficulty overcome and the safety and feasibility of the operation established, a further doubt arises in our mind. If the narrowed valve is divided what hope is there that the incision in the valve will heal without renewing the contraction? The incision in such a valve would show a great tendency to unite directly and the state of the valve would then be worse than before. It has been clearly established in the surgical treatment of stricture of the urethra or rectum that simple division of the contracted fibrous tissue is of little good unless it is followed up by the frequent passage of suitable instruments to keep the mucous canals quite free and open, and so to prevent the direct union of the edges of the wound. Now this cannot be done in the valvular orifices of the heart. If it is urged that the force with which the blood is driven through from the auricle is sufficient to keep open the passage, it must be replied that this force proved in the first place wholly inadequate to prevent the contraction of the valve, and, therefore, that there is little reason to hope that it would prove efficient in resisting a still stronger contracting force. It has also to be borne in mind that the operation might convert the valvular lesion from a mitral stenosis into a mitral regurgitation with very doubtful benefit to the patient. For the difficulties of the procedure must be enormous.

Should our anticipations of failure be proved to be groundless we shall indeed rejoice to witness an extension of surgery which might be attended with great alleviation of human suffering. But we can only repeat that the mere suggestion of surgical operation for the relief of mitral stenosis casts a grave responsibility upon Sir LAUDER BRUNTON, and a responsibility that he does not lessen by now leaving it to other workers to prove or to disprove its value.

Annotations.

"Ne quid nimis."

CHANGES OF WEATHER AND TEMPERAMENT.

METEOROLOGICAL influences were recognised by the ancients, notably by the Egyptians and by Hippocrates. The latter in a series of aphorisms made some very definite observations on seasonal effects upon the human body, many of which are in perfect accord with modern experience. It cannot be gainsaid, for example, that changes of seasons and the alternation of cold and heat in those seasons are most effectual causes of disease. It is well known that some persons feel in better health in winter than in summer and *vice versâ*. Hippocrates pointed out that the south wind dulls the senses of hearing and sight, causes headache, heaviness, and faintness, and that the north wind affects the chest and throat. The south wind relaxes and the north wind contracts the tissues of the body. All these effects wrought by seasonal oscillations must have their influences over the great physiological processes. Nowadays we attribute more correctly such influences to changes of temperature, of pressure, and of the degree of humidity of the air—changes which are more in evidence at certain times of the year than at others. They are, in fact, seasonal changes giving rise to seasonal symptoms. Hippocrates lived before means were found of measuring temperature and pressure; the thermometer was discovered in the sixteenth century and the barometer 100 years later. Hence his observations referred to cold and heat and to the direction of the winds. The effects of changes of temperature upon the body are better understood, perhaps, than those due to pressure. Yet that pressure must exert a marked influence upon the body and its functions is certain, since the weight sustained by an average body when the barometer is at a normal height is no less than 15 tons. Further, this pressure is constantly varying. Thus a rapid fall in the barometer may mean the withdrawal of a ton weight upon the body, and conversely a rapid rise in the barometer would mean saddling the body with an increased weight upon it to the extent of one ton. Such a change surely must affect the human disposition. There is no doubt that it does, and it is frequently manifested in disagreeable symptoms, discomfort, a want of feeling of well-being, a lack of geniality, and so on. The proverbial grumbling disposition of the Englishman may thus be the result of the successive generations in this island being exposed to all the types of weather which it is possible to experience. At any

rate, there is certainly a relationship between character and climate.

SMALL-POX IN LONDON.

THE small-pox returns for the past week show the following figures. On Saturday, Feb. 8th, there were 32 fresh cases notified and removed; on Sunday, the 9th, there were 23 fresh cases; on Monday, the 10th, there were 48 fresh cases; on Tuesday, the 11th, there were 58 fresh cases; and on Wednesday, the 12th, there were 58 fresh cases. With regard to the question to which we referred last week of the vaccination or revaccination of the employés of large firms, Messrs. Bradbury and Wilkinson in a letter to the *Times* of the 10th, stated that although they had made arrangements for offering vaccination to their employés, the operation could not be carried out because the public vaccinator was unable to vaccinate any person living outside his own district. Messrs. Octavius H. Smith and Co., in a letter to the *Times* of the 11th, also stated that the public vaccinator for their district pointed out this difficulty. Messrs. Smith, however, thereupon wrote to the Local Government Board who granted the public vaccinator special leave to vaccinate any of Messrs. Smith's employés although they did not reside in his district.

THE METROPOLITAN WATER-SUPPLY.

THE report on the condition of the metropolitan water-supply during the month of December, 1901, has recently been issued by the Local Government Board. The Water Examiner states that the water of the Thames was in good condition at Hampton, Molesey, and Sunbury from the 1st to the 12th and from the 19th to the 24th days of the month under review. The engineer to the Chelsea Waterworks Company reports that on the 13th, 18th, and 25th days of the month the water at West Molesey was of "indifferent" character, and that from the 14th to the 17th and from the 26th to the 31st the state of the water was "bad." During the whole of the period at which the water was bad the intake of the Chelsea Company was closed. In the case of the Southwark and Vauxhall Company the river intake to the filters at Hampton was open from the 1st to the 30th of the month. On Dec. 30th Dr. T. E. Thorpe, the analyst to the Local Government Board, found that taking the average amount of organic impurity in a given volume of the Kent Company's water during the nine years ending December, 1876, as unity, the proportional amount in an equal volume of the Southwark Company's water amounted to no less than 3·6. On the same day the water supplied by the Lambeth Company showed an even greater amount of organic impurity (5·3) as judged by the same standard, but the worst water of all was that supplied by the Grand Junction Company on Dec. 31st, which gave a comparative result represented by the figures 5·4. On Dec. 30th the Lambeth Company's water was very faintly opalescent. The Thames at its highest point during the month was one foot three inches above, and at its lowest one foot below, the average summer level. The rainfall during the month at West Molesey was 3·05 inches. The average total daily amount of water distributed by the companies was 197,577,154 gallons for a population estimated at 6,307,230, and this represents a daily consumption per head of 31·33 gallons for all purposes. The company which is stated to supply the largest daily amount per head is the Grand Junction, and the one which supplies the smallest amount is the East London, the figures given being respectively 42·06 gallons and 25·87 gallons. With the exception of the Lambeth Company all the metropolitan companies supplied less water per head during the month than that given in December, 1900. The companies which now profess to give a constant water-service to their customers are the Chelsea, the East London, the Grand Junction, and the West Middlesex. Of the other companies the Kent, the New River, and the Southwark and Vauxhall supply respectively 95·9, 95·7, and 93·0 per cent., as compared with 92·3, 95·0, and 93·2 per cent. in December, 1900. The Lambeth Company professes to give constant service to no more than 77·5 per cent. of its customers. The proportions of brown tint observed in a two-foot tube varied very greatly in the different samples examined; it ranged from two to 30 degrees of the standard in use. The br wn tint which is due to the presence of foreign matter or dirt is well marked in the water supplied by those companies which have a deficient storage capacity or an insufficient filtration area at those periods at which turbid water is taken from the Thames for immediate use. The water of the Lambeth Company exhibited the deepest average tint of brown. Dr. Thorpe says of a specimen of the Southwark Company's water that it "was good for the time of year"—a statement which seems to require elucidation. All the samples taken of the water supplied by the Kent Company were of their usual excellent quality.

FOREIGN MEDICAL PRACTITIONERS IN LONDON: SOME INTERESTING FIGURES.

ACCORDING to the recently issued census returns there are 4801 "physicians, surgeons, and general practitioners" in London, of whom 92 are females. There are no less than 169 male and six female foreign physicians, surgeons, and general practitioners located in London. Of these, there are nine male and one female who are Russians; one male Russian Pole; seven male, three female, Swedes; two male Norwegians; three male Danes; four male Dutch; one male Belgian; 12 male French; 32 male, one female, Germans; three male Austrians; eight male Swiss; three male Spaniards; one male Portuguese; 12 male, one female, Italians; two male Greeks; three male Turks; two male Japanese; one male Asiatic; and 63 male Americans. 16,107 persons living in London are returned as "sick nurses, invalid attendants," of whom 15,844 are females; three of the latter are stated to be blind. 266 "midwives" are also returned in London. There are 62 female dentists in London.

POISONING BY CUTANEOUS ABSORPTION OF ANILINE.

IN the December number of the *Archives Générales de Médecine* Dr. Georges Brouardel of Paris has collected particulars of several cases of poisoning due to the wearing of boots to which a black material containing aniline had been recently applied. The patients were mostly children from the age of 17 months upwards, but at least two of them were adult males. The attacks occurred during hot or moderately warm weather. Attention was first called to this particular form of aniline poisoning by Dr. Landouzy and Dr. Brouardel, who brought it before the Paris Academy of Medicine in July, 1900. The boots seem to have been in all cases of yellow leather, the colour of which was changed to black either because they had become shabby or because the wearers happened to be in mourning. The symptoms were quite similar to those which have from time to time been presented by workers in aniline factories and usually appeared in from one hour to three or four hours after the boots were put on. Generally, before the patients felt themselves ill their paleness and the remarkable blueness of their lips and fingers had attracted the attention of those in their company; this stage was soon followed by giddiness, shivering, increased cyanosis, muscular relaxation, and loss of consciousness, either partial or complete. In severe cases this condition persisted for about 24 hours, but in mild cases for only a short time. No deaths occurred. The boots

which caused the mischief were said to smell like Indian or China ink; they were blackened with a composition containing a large proportion (90 per cent.) of ordinary aniline, which served as a vehicle for the black colouring agent. Dr. Landouzy and Dr. Brouardel found that aniline applied to the shaved skin of guinea-pigs and rabbits kept in a warm place produced illness in from three to four hours and death in from 24 to 36 hours.

"CHRISTIAN SCIENCE" IN GERMANY.

THE German Emperor is stated to have no intention of allowing the mischievous and crack-brained disciples of Mrs. Eddy to have an opportunity of spreading their doctrines in the Fatherland. It will be interesting to see what steps the German authorities will be able to take in the matter, for while it is the duty of a Government to watch over the health of the people it cannot possibly be the province of any Government to decide what is and what is not correct medical treatment. It may be said that such a manifest absurdity as the theory of Christian science cannot possibly pretend to be a system of therapeutics; but, unfortunately, that is just what it does pretend to be. The German Emperor will earn the gratitude of English and American legislators if he can devise a plan which will stop these silly persons from playing with the lives of their fellow-creatures and which will at the same time give no chance to refractory persons to say that the freedom of the individual is being unduly curtailed.

A BILL FOR THE BETTER PROTECTION OF CHILDREN.

WE are informed that a Bill to amend the Act for the Prevention of Cruelty to Children will shortly be introduced into the House of Lords. It proposes to restrict the working hours of children employed in domestic work and to prevent their being brought up as tramps. It would also make it illegal to endanger the lives of young children by overlying, by leaving them alone in rooms with an unprotected fire, and by having them carried about by drunken persons, and would seek to protect their moral character by prohibiting promiscuous sleeping arrangements. It may be said that much of the ground occupied by these amendments is covered by the general term "neglect" for which provision is made by the original Act. There can be no reasonable doubt that such is the case with regard to many so-called accidents due to burning and to overlying. Nor is the case of a child committed to the arms of an incapable drunkard essentially different. It is from our point of view hardly conceivable that a magistrate should be able under these circumstances to interpret the implied neglect as other than a punishable offence. Nevertheless, we should be most unwilling to lose any force derivable from detailed and exact definition which may be needful to strengthen the hands of magistrates in dealing with such occurrences. As regards the regulation of domestic arrangements we are of opinion that makers of law should walk warily. Questions arising in this connexion are best settled out of court as far as may be possible. When there is proof of oppression, or cruelty, or a public nuisance, we naturally look to the law for justice and reparation. Where we have to do with errors of judgment in respect of such matters as household occupations or decency we cannot shut our eyes to the help which can be derived from education or from the more delicate, subtle, and powerful influence of religion. It will be for those who have to discuss and to vote upon this Bill to say how far the evils with which it deals are real and how much they are to allow to one or the other or to all of these forces in seeking their removal. There is a related subject which we greatly desire to see taken up by the legislature with more energy than it has been—that of infant insurance. The history of this system as it is read by the critical onlooker is marked by a degree of mortality which is, at least, suggestive of widely prevalent abuse. Here, if anywhere, we would say, is a point at which legislation should intervene in a manner that it has not done. We have never been able to understand what pecuniary interest a poor parent can be considered to possess in the death of his young child apart from the cost of burial expenses. As a matter of fact, the sum insured is often far in excess of this moderate sum, so far that it bears a dangerous likeness to a premium on mortality. It is to be feared that it is not infrequently so regarded by parents who have more children than they care for and that a child's life has repeatedly gone in exchange for the insurance money. We believe that the necessity for this kind of insurance even among the poor has been overestimated. We are of opinion that it would be fairer to the child, fairer to the parents, and of greater public benefit, that instead of insurance being made for a payment of money it should be limited to providing decent burial in the event of death.

LOCALISATION OF THE BACILLUS TYPHOID AT THE SITES OF INJURIES DURING RECEIVED TYPHOID FEVER AND AT THE SITES OF PREVIOUSLY EXISTING LESIONS.

WE have recently referred to the fact that typhoid bacilli are usually present in the blood in cases of typhoid fever and to the value of examination of the blood for them as a means of early diagnosis.[1] Some cases described at the meetings of the Société Médicale des Hôpitaux of Paris illustrate the ubiquity of the bacilli in cases of typhoid fever in a novel and interesting manner. At the meeting on Jan. 17th M. F. Widal and M. L. Le Sourd jointly described the case of a young woman, aged 24 years, in whom during convalescence from a long attack of typhoid fever an abscess and three "oily" subcutaneous collections developed in the positions of punctures made in injecting hypodermically caffeine and normal saline solution. In the pus of the abscess which was beneath the skin of the abdomen and in the oily collections which were situated on the left thigh the typhoid bacillus was found. This fact is analogous to the observation of several writers who have found pneumococcic abscesses at the sites at which subcutaneous injections of caffeine had been made in cases of pneumonia. In the abscess the typhoid bacillus and the staphylococcus aureus were found. In the oily collections the typhoid bacillus was found in pure culture. Histological examination showed polynuclear cells mixed with some lymphocytes. In this case the slight injury produced by the needle of the hypodermic syringe evidently localised the typhoid bacillus which must have been present in the blood. At the meeting of the Société Médicale des Hôpitaux on Jan. 24th M. Widal and M. Ravaut gave examples of the localisation of the typhoid bacillus in the sites of lesions existing before the occurrence of the typhoid fever. A young woman had chronic submaxillary tuberculous adenitis. During convalescence from typhoid fever one of the tuberculous glands enlarged and became red and fluctuating. On incision pus was obtained containing the typhoid bacillus in pure culture. Cicatrisation rapidly occurred. A woman, aged 34 years, had typical typhoid fever which ran the ordinary course until the twentieth day, but there was abdominal pain, especially on the right side. On the twenty-first day vomiting occurred and the abdomen became tympanitic and more painful. The febrile symptoms persisted for three weeks. At the end of this time the abdominal pains returned in a violent form, greenish matter was vomited, and the abdominal facies—pinched nose, hollow eyes, and leaden

[1] THE LANCET, Feb. 8th, 1901, p. 390.

tinge—was present; the pulse was 130. These symptoms persisted for a week and then gradually disappeared. On the sixtieth day there was no fever and the general condition was good. Three weeks after defervescence the patient got up, but the abdominal pain and tympanites at once reappeared, the evening temperature rose to 100·4° F., and a tumour was found in the right iliac fossa. Appendicitis was suspected and laparotomy was performed. A large ovarian cyst containing 1500 grammes of blackish fluid which yielded the typhoid bacillus in pure culture was found. The patient's blood had still a high agglutinative power. The cyst and the right Fallopian tube were removed and rapid recovery ensued.

LAPSES OF MEMORY IN RAILWAY EMPLOYÉS.

IN the course of a discussion at a meeting of American railway surgeons held in Chicago and recently reported in the *Railway Surgeon*, Dr. A. F. Jonas of Omaha, Nebraska, said that as with many other persons so with railroad men there was now and then a mental blank when a man did not think or his mind did not operate. This was the only explanation for the fact that some men ran into an obstruction in broad daylight when it was plainly visible. He then quoted an instance of this kind. Dr. A. T. Eskridge of Denver, Colorado, the next speaker, said that these cases of amnesia were of not infrequent occurrence on railroads and were usually due to definite causes. The greatest cause was alcoholism, not in the sense of drunkenness at the time, but of drunkenness a day or two before. The brain was then in an automatic state in which it could not adapt itself to new conditions. Dr. D. S. Fairchild of Clinton, Iowa, the president of the meeting, said that the observations made by Dr. Eskridge struck him very forcibly and in his opinion accounted satisfactorily for certain inexplicable accidents. He then related a case in which through a switch being turned the wrong way one of the most important trains on a certain railway left the main line and went off on a branch line. The main line was a double track and crossed a bridge, and the branch line was single and passed through a cutting, but the engine was allowed to run for eight miles before the driver discovered his mistake. Fortunately, no accident occurred. The driver when off duty drank freely and occasionally got drunk, but he was always sober when he went on the engine.

SMALL-POX AND ISOLATION.

AS we surmised the statements made about the Small-pox Hospital at South Mimms before the Barnet Rural District Council on Jan. 23rd were in some cases exaggerated and in others apparently simply untrue. It appears that the same statements have been made previously by various people, and the secretary of the hospital has forwarded to us letters and copies of his answers which deal with the points upon which we commented. From these documents and letters we learn: 1. That the staff all reside on the premises, with one exception only. She resides at Clare Hall, an old house in the grounds. She never goes to the hospital, and always changes her clothes and has a disinfectant bath before leaving. 2. As to convalescents leaving the grounds and going to the public-house this has not occurred. What did happen was that some patients after discharge went to the public-house. 3. With regard to convalescents and the fence, the fence on the east side is an oak one more than six feet high. Convalescent patients are only allowed in certain parts of the ground and an unclimbable iron fence is being erected to keep them away from the highway altogether. A further fence is being erected on the northern side which will be five feet six inches high. When this fence is erected there will be a double barrier. 4. As to the workmen, neither the hospital authorities nor anyone else can compel workmen to be vaccinated or to remain within the hospital grounds. Notices are, however, posted forbidding them to have any communication with the convalescents and offering to vaccinate them gratuitously and to disinfect their clothing. Contractors are now requested to get their workmen to comply with these conditions. So far, then, as we can see the statements upon which we commented seem to be, if not without foundation, grossly exaggerated, with the single exception that possibly convalescents may have been able to approach too near to the highway. A small-pox hospital is, of course, a necessary evil, but we earnestly advise all the dwellers in the neighbourhood to get vaccinated without delay. They will then be practically free from all danger; and it is only fair that if the hospital authorities take precautions the local inhabitants should do so too.

CALEDONIAN MEDICAL SOCIETY.

THE awards of the Gunning Celtic prizes offered by the Caledonian Medical Society for original work on Medico-Celtic subjects have just been made public. The adjudicators, Principal Rhys of Oxford and Professor Mackinnon of Edinburgh, have awarded the first prize of £20 to Dr. H. Cameron Gillies of Hampstead for his paper on a Gaelic Medical MS. of 1563. This manuscript, which the author discovered in the British Museum, belonged to the famous Beaton family who were hereditary physicians to the Kings of Scotland from the beginning of the fourteenth century. The second prize of £10 has been awarded to Mrs. K. Whyte Grant, New Zealand, for an essay on the Influence of Scenery and Climate on the Poetry and Music of the Highlands. The papers will be published in the *Caledonian Medical Journal*.

THE STEREOTYPED ATTITUDES AND POSTURES OF THE INSANE IN REGARD TO DIAGNOSIS AND PROGNOSIS.

DR. ALBERT CAHEN has contributed to the December number of *Archives de Neurologie* a minute study of the "stereotyped attitudes and postures" characteristic of many forms of insanity, a subject to which much popular clinical interest has been accorded, but which has been little studied as regards diagnostic and prognostic value. At the outset such conditions as *tics*, spasms, choreiform movements, and impulsive acts were excluded from the present research, which was limited to stereotyped movements and attitudes in the strict sense—i.e., such as were marked by automatism, long duration and persistence of attitude, and by being repeated frequently and in the same way. Such acts were, moreover, stamped by a "professional" appearance in some cases and had the semblance of being voluntary and intentional. They included attitudes, peculiarities of language, gestures, and modes of walking. The following were illustrative instances: attitudes of crouching like a beast without moving, standing or sitting in fixed poses which had an insane or delusional significance, automatic buttoning and unbuttoning of the clothes, modes of stamping the floor and of walking a few paces forwards and then backwards, lispings and utterings of sounds and words which the patient held to have a spiritual or mystic meaning (neologisms), and mutism. When a patient exhibiting any of the above peculiarities was examined at the onset of his illness inquiry generally revealed that the cause of his actions was a delusion of grandiose, mystic, hypochondriacal, or persecutory nature, provoking reactions and attitudes of a defensive character—the attitudes, acts, and postures in question. The patient who acted thus in the early stages of his disorder acted consciously, but later, owing to repetition, the reaction became automatic and stereotyped and the delusion became fixed and organised in the brain, so that the circuit

from mental delusion to motor reaction was organically complete. Such stereotyped acts were present in cases of dementia præcox, catatonia, dementia secondary to the maniacal-melancholic group of insanities, paranoia, *délire de négation*, and secondary mental enfeeblement generally, and hence they might also be observed in the early and middle stages of general paralysis. The insanity of obsessions (morbid doubts and fears) might also provoke characteristic attitudes of passion, doubt, religiosity, and fear which from recurrence might become fixed and stereotyped. Dr. Cahen points out that it is sometimes difficult to distinguish the stereotyped attitudes and actions of the insane from those which occur in hystero-epilepsy and hysteria major, but that such phenomena were of bad prognosis as being indicative of a permanent degree of mental enfeeblement—that is to say, of chronicity and incurability as regards the mental life. The prognosis, however, as regards bodily life need not be, and often was not, grave.

THE UNQUALIFIED ASSISTANT ON HIS OWN ACCOUNT.

THE unqualified assistant of the medical practitioner is now limited in his duties by the General Medical Council. How great a source of danger to the public he is when he begins to consider himself competent to do a little in the way of unqualified practice on his own account we all know. A good example of this kind of unqualified practice was brought to light the other day by an inquest at Hackney. The deceased had been attended for 18 months by a person whom her husband knew as "Dr." Edwards, but who apparently had been dispenser to one or two medical men practising in the district. Edwards seems to have begun by treating the family of his lodging-house keeper for small ailments, and, being recommended by them or others, to have come to treat the deceased woman as to whose death the inquiry was held. He was paid for his attendance upon her; a bottle was produced which was said to have contained medicine prescribed by him, but which bore no label or directions. The husband had no knowledge that Edwards was not a fully qualified practitioner. Evidence was given that the patient died from syncope due to fatty degeneration of the heart, and a verdict of "Death from natural causes" was returned, accompanied by a rider censuring Edwards. Edwards, it would seem, is not in any way amenable to the law, for the law does not forbid unqualified practice. When a patient dies under the care of an unqualified person, and the affair becomes known, because the unqualified person cannot give a certificate, the public awake to the danger. But in a very short time vigilance relapses and the unqualified practitioner continues his dangerous career.

SUSPECTED POISONING BY ARSENIC IN BEER AT HALIFAX.

IN our issue of Feb. 8th (p. 385) we referred in a leading article to an inquest held upon the body of an old man who died from cardiac failure and bronchitis. There is, of course, nothing remarkable about these two causes of death, but on his admission to the Halifax Workhouse Hospital the patient showed marked symptoms of arsenical poisoning such as were observed during the recent outbreak at Manchester. Dr. J. F. Hodgson, the resident medical officer, therefore reported the case so that an inquest might be held. On Feb. 7th another inquest was held by Mr. E. H. Hills upon the body of a man named Thomas Lee, aged 54 years, who died on Feb. 5th in the Halifax Workhouse Hospital. Evidence was given that Lee during life was a heavy drinker. He would drink "rum, whiskey, ale, or anything." Mr. J. F. Woodyatt, visiting physician to the hospital, gave evidence that Lee on admission presented all the symptoms of so-called arsenical beer-poisoning. The cause of death was croupous pneumonia. While under treatment Lee eliminated arsenic daily. He also had old pleurisy and morbus cordis. Dr. Hodgson confirmed Mr. Woodyatt's statements as to the arsenical poisoning symptoms. He did not agree that Lee died from croupous pneumonia; the primary cause of the man's death was arsenical poisoning. The condition of the lungs was secondary to the condition of the heart. The coroner pointed out that everyone agreed that Lee did suffer from arsenical poisoning. As to where he got his arsenic from that was rather a matter for the sanitary authorities than for them. The jury returned a unanimous verdict of "Death from pneumonia accelerated by arsenical poisoning." The coroner said, after the verdict had been given, that a gentleman had called on him and had told him how to conduct the inquiry. He, the coroner, would not mention his name, but he was connected with the brewery interest. As far as we can judge from the evidence given there would seem to be no doubt about the arsenic having a large share in the death of Lee. But a man who had old pleuritic adhesions, morbus cordis, bronchitis or pneumonia, or both, and who was in addition a confirmed drinker, carried about with him a "body of death" quite enough to kill him in a variety of ways. There need not be so much arsenic taken to set up severe symptoms, if it be taken in an organic form, or when associated with other things, or after it has been exposed to some process of fermentation. Arsenic, as is well known, was a favourite poison in mediæval times, and it was said to be far more efficacious if prepared by first administering it in a fatal dose to a pig or some animal. The body was then allowed to putrefy and the arsenical fluids distilled or otherwise extracted from the putrid mass were found to be of great potency. We are repeating the teachings of mediæval practice without guaranteeing their accuracy. But, possibly, the fermented compounds of arsenic nowadays may be far more virulent than any simple salt of the metal. It is difficult to see how arsenic could get into rum or whisky, two of Lee's favourite beverages, but in ale there are two possible sources—namely, invert sugar and malt. If brewing sugars are, since the Manchester epidemic of arsenical poisoning, generally pure we suppose the guilty substance must be the malt. We have taken our notes of the inquest from the *Halifax Courier* of Feb. 8th, which gives a full report, and is to be congratulated upon having done so.

THE ARMY MEDICAL SERVICE.

ANY day now may see the appearance of the new Royal Warrant for the Royal Army Medical Corps; meanwhile a good deal of natural curiosity exists to know whether the warrant will fulfil all the reasonable expectations that have been raised in regard to it. Apart from all the questions that have arisen and have been keenly discussed in connexion with the report of Mr. Brodrick's Committee there are several matters calling for settlement on the part of the authorities. Professor T. Clifford Allbutt has very pointedly called attention to the unscientific, or even anti-scientific, tone of the service as one of its evils and as exercising a deterrent effect on medical candidates of a superior class; and he illustrates this by quoting the experience of a medical officer as to the deficiencies that exist in the supply of scientific, medical, and surgical appliances, and the lack of any sympathetic and appreciative spirit on the part of many of the senior medical officers of the service in encouraging their juniors to prosecute scientific researches and to keep abreast with the results of professional progress. How far these allegations are well founded at the present time we have not the means of knowing. The system of promotion by selection for the higher ranks, if honestly and properly carried

out, should go a long way towards effecting a changed condition of things. Obviously no pains should be spared to encourage medical officers in their purely professional work and, as far as possible, to enable them to maintain a high order of scientific merit. There is, too, the question of what should be done in future wars in regard to everything appertaining to practical field sanitation and the organisation of a sanitary corps. This is a subject which we have already fully discussed in the series of articles that appeared in THE LANCET during the past year and we were very glad to see that it did not escape the attention of Professor A. Ogston who gave it the first place in his addendum to the report of Mr. Brodrick's Committee. The approval and coöperation of the Indian Government in the new warrant will, of course, have to be secured seeing that so large a number of officers of the Royal Army Medical Corps are employed with the British troops serving in India.

THE DISTRIBUTION OF PLAGUE.

DURING the week ending Feb. 2nd 22 cases of plague and 16 deaths from the disease have been reported throughout Egypt. 18 cases and 14 deaths occurred at Tantah, 9 of the latter occurring out of hospital; 1 Greek died from the disease in hospital; the remainder of the cases and deaths occurred among the native population. 5 cases and 4 deaths occurred in one house, 2 cases in another, and 1 case in a third at Tantah where cases had a few days previously been found after death; this points to the great necessity of the people at once notifying all cases of sickness to the sanitary authorities, as in all probability if the first cases of plague had been at once isolated and properly treated no further cases would have occurred in the same houses. 2 cases and 1 death were announced from Abousir in the Mehalla district of Gharbieh, 1 death out of hospital at the village of Kafr Enan near to Zifteh, and 1 case in the village of Koum-El-Nour near to Mit Ghamr. All these cases were from among the native population.

DECLARED ADULTERATION NO OFFENCE.

AS is well known practically the Food and Drugs Act can be evaded by the seller adopting the expedient of declaring the adulteration of the article that he sells. This practice of declaration is steadily extending and is threatening to reduce the Act to a dead letter. At one time it was only the publican who announced in his shop that in order to comply with the requirements (*sic*) of the Food and Drugs Act the articles which he sold were diluted. Now some grocers on a similar principle post a notice to the effect that the butter which they sell contains a certain proportion of milk—the addition of milk amounts to the butter being watered—and many restaurant proprietors, and especially those who cater at railway-stations, intimate to the public that they cannot guarantee to supply milk with its full complement of cream. It may be noted that the railway restaurant is often the traveller's only opportunity of obtaining food and drink, and yet by this system of notification he has no means of securing genuine articles. Something ought to be done to stop this practice which, if it grows as it appears to be doing, is calculated to defeat the objects of the Act—namely, to maintain the quality of the food-supply. No legislation which aims at a high standard of food-supply can be too strict. Yet legislation in the instances which we have quoted is admittedly defeated—a most deplorable state of things. An expedient that protects the seller and not the consumer is opposed to sound principles. It is difficult to suggest how this practice can be effectually checked unless the law is made to demand the sale of foods strictly in accordance with a prescribed standard. It should, at any rate, be insisted upon that when the adulteration of an article of food is declared it should be done in the plainest possible terms. The statements should be strongly positive, and not negative, intimating what is sold and not what is not sold. The publican should state, "I sell watered spirits"; the grocer, "I sell watered butter" or "I sell starch glucose and not golden syrup"; and the restaurant proprietor, "I sell skimmed milk." It might be possible to base legislative action on the price charged for such watered goods. There is a wide difference between the price of water and that of genuine butter or milk, or that of undiluted brandy, gin, or whisky.

CRIME IN ITS FUTURE DEVELOPMENTS.

IN a brief summary of the progress and future of crime in European countries and in America from the pen of Professor Lombroso which appeared in the *Medical News* of New York of Jan. 11th the following main conclusions are arrived at. Assassination has diminished by one-half and so has incendiarism during the latter half of the nineteenth century. A certain group of crimes of blood and theft still remain, because the degeneration which accompanies, or is favoured by, civilisation, although it finds an outlet in suicide and insanity, will always furnish a quota, however scarce, of crimes. In England a survey of judicial and criminal statistics shows that habitual criminals have increased during the period from 1863 to 1898 by about 10 per cent. over and above the rate of increase of population, and this statement does not include suicides and epileptic criminals. Suicide has increased to an appalling extent in the most civilised countries, while crimes committed by epileptics seem to show a considerable increase. "In conclusion," says Professor Lombroso, "it appears probable that crime will not wholly disappear in the world, no matter what cure we may apply to it, though most crimes will decrease in brutality and in number with the exception of those against woman." In time to come civilised man will consider crime as a strange and monstrous product to be regarded with compassion mixed with abhorrence and disgust. The outlook for the future as regards the progress of crime is thus not altogether pessimistic, for it is evident from Professor Lombroso's observations that on the whole the tendency is for a diminution in the frequency and brutality of crime with the progress of time.

CLINICAL INSTRUCTION IN SMALL-POX.

AT the meeting of the Metropolitan Asylums Board held on Feb. 8th the Hospitals Committee submitted draft regulations relative to clinical instruction in small-pox, together with a recommendation that the Local Government Board should be requested to modify the terms of its Order of Oct. 30th, 1893, so as to remove the obligation of residence at present imposed on students at the small-pox hospitals and to enable qualified medical men to attend special demonstrations to be given from time to time thereat. The principal points of the draft regulations are as follows: (1) no student shall be admitted to study at the hospital until he has completed the third year of his medical education, has held the offices of clinical clerk and dresser, and has obtained from his medical school sanction to his attendance at the hospital; (2) the ordinary course of study at the hospital shall consist of 12 demonstrations and no student shall receive a certificate who has not attended at eight of them; (3) the fee shall be four guineas; (4) the means of conveyance to and from the small-pox hospitals shall be by the Board's steamboats to and from its London wharf; (5) every student will be required to wear, as long

as he is within the hospital, a suit of brown holland overalls, consisting of coat, trousers, and cap, which will be provided by the Board; (6) any legally qualified medical man may attend the hospital for purposes of instruction as if he were a student; (7) in order that qualified medical men who have not sufficient leisure to attend a prolonged course of instruction may have opportunities of seeing cases of small-pox demonstrations will be given from time to time, the fees charged being one guinea per demonstration or two guineas for three demonstrations; and (8) the rules as to disinfection and vaccination shall apply equally to medical men and students. The Board will, no doubt, give public intimation of the time when the foregoing scheme may become operative. At the same meeting of the Board a letter was read from Dr. T. O. Dudfield, medical officer of health of the borough of Kensington, suggesting that experts appointed by the Board should assist practitioners in the diagnosis of doubtful cases of small-pox before the removal of the patients from their homes. This might be useful in some degree; but, on the other hand, during an epidemic a considerable staff of experts might be required and delay in the removal of genuine cases of small-pox might be occasioned. The suggestion was therefore not adopted. As is generally known, all cases of presumed small-pox are examined by a medical officer at the Board's wharves before the journey in the steamer down the river to the hospital.

THE SOCIETY OF PUBLIC ANALYSTS.

THE twenty-seventh annual dinner of the Society of Public Analysts was held on Wednesday evening last, Feb. 12th, at the Hotel Cecil. Dr. J. Augustus Voelcker, President of the Society, was in the chair, and was well supported by the leading members of the Society. The guests included Mr. T. H. Elliott, C.B., the Secretary to the Board of Agriculture; Sir Ernest Clarke, Secretary to the Royal Agricultural Society; Professor T. E. Thorpe, C.B., director of the Government Laboratories; Professor H. E. Armstrong, Professor of Chemistry at the City and Guilds of London Central Institute; and Mr. W. R. Bousfield, K.C., M.P. Eloquent testimony to the sound value of the work done by the Society of Public Analysts was forthcoming in the speeches of Mr. Elliott and Professor Thorpe replying to the toast of "The Public Departments," and in that of Professor W. A. Tilden, who submitted the toast of the evening: "The Work of the Society." Dr. Voelcker, replying to Professor Tilden, gave an excellent exposition of the work and aims of the Society of Public Analysts, interspersed with humorous anecdotes as to the public conception in days not long gone by of what was implied by the title of "chemist." Sir Ernest Clarke was witty and Professor Armstrong was commendably brief in replying to the toast of "The Guests." Altogether the gathering was a thoroughly pleasant and successful one and fulfilled the object of such annual dinners very completely, for on all sides testimony to the value of the work of the society was elicited.

UNIVERSITY OF LONDON FACULTY OF MEDICINE.

A MEETING of the faculty of medicine of the University of London will be held at the University buildings at 5 P.M. on Feb. 21st. The business will be the further consideration of the question of the concentration of intermediate and preliminary medical studies. In view of the recent large accession of new members, who have not been able to take part in the former discussions on this subject, Mr. H. T. Butlin, the dean of the faculty, will make a short statement as to the work of the faculty in connexion with "concentration" during the past year.

THE anniversary dinner of the Medical Society of London will be held at the Whitehall Rooms of the Hôtel Métropole on Saturday, March 8th, at 7.30 P.M. Communications should be addressed to the honorary secretaries, Dr. Arthur F. Voelcker and Mr. Jonathan Hutchinson, jun., at 11, Chandos-street, W.

THE President of the Republic of Venezuela has conferred upon Dr. Oscar Jennings of Paris the Order of Commander of the Bolivar (Busto del Libertador).

Pharmacological Notes.

ON SOME UNSOLVED PROBLEMS AS TO THE CHEMISTRY OF DRUGS.

NOT the least important portion of the work of the British Pharmaceutical Conference consists in the encouragement of research. In a list published under the auspices of the conference hints are given as to various problems connected with the analysis of plants, chemistry, materia medica, and pharmacy that await investigation.

Problems in the Analysis of Plants.

There are quite a number of important drugs of which the active principles are as yet either unknown or imperfectly understood. Thus, the bark of cascara sagrada is known to contain certain resins, one of which is said to have a bitter taste, but their chemical nature is not known.[1] The rhizome of *Cimicifuga racemosa* has an acrid, bitter taste which has been attributed to a crystalline substance, racemonin, but it is not known to what constituent or constituents the activity of the rhizome is due. There are many other drugs of which our knowledge is incomplete and brief reference will be made to some of them. *Euphorbia pilulifera:* Investigations have so far failed to isolate any particular constituent. The chemical constitution of the acrid principle of mezereon bark, named "mezerein," is required; it has sternutatory properties and has been described as a greenish-brown amorphous resin. The flowers and root of *Arnica montana* have been found to contain a bitter principle, arnicin, consisting of minute yellow deliquescent crystals, but its constitution has not been decided, nor is it known whether the flowers contain, as has been stated, more arnicin than does the root. Of the bitter principle of chamomile flowers, termed "anthemic acid," little that is definite is known. The same applies to the purgative principle of the castor-oil seed; as the fixed oil possesses well-known mild purgative properties it is probable that at least some of this principle is extracted from the seeds with the oil. The latter consists of the glycerides of ricinoleic and ricin-isoleic acids, but whether these glycerides in their pure state or the fatty acids themselves are purgative or not is undecided. The cake that is left after the expression of the oil is more violent in its action than the whole seeds or the oil itself. From this cake a purgative substance, ricinone, has been isolated, as well as an extremely poisonous principle, ricin; the latter body belongs apparently to the class of albumoses; it produces inflammatory symptoms and is not purgative.[2] Little appears to be known definitely regarding the active principle of taraxacum root. It is desirable to know to what constituents its cholagogue and diuretic properties are due. A small quantity of a crystalline bitter substance, taraxacin, has been obtained from the root, also an acrid principle, neither of which, however, has been closely examined. The former constituent appears to be susceptible of decomposition, as the extract prepared from the fresh root is often almost devoid of bitterness. The medicinal virtues of the bladderwrack (*Fucus vesiculosus*) have been attributed solely to the presence of iodine and bromine. It is not improbable that this seaweed may also contain some organic constituent of importance. According to Eschle the iodine exists in the form of an organic compound similar in its nature to the iodine compound found in thyroid glands. A gelatin-like substance, algin, has also been obtained from this drug. It remains to be proved what is the most important constituent. Veratrine, as obtained from cevadilla

[1] Compare Greenish's Materia Medica, to which reference has been made in this and other cases cited.

[2] Ibid., p. 160.

seeds, is admittedly a mixture of alkaloids, the most important of which are the crystalline veratrine and the amorphous veratridine, though several others have been reported—viz., sabadilline, sabatrine, sabadine, and sabadinine. It is important that so potent a drug as veratrine should be prepared in as pure and definite a state as possible; hence it is desirable that a process should be devised for preparing an alkaloid of definite composition. Damiana is reported to contain a bitter substance, resins and volatile oil. As the liquid extract of the leaves is now being extensively used a systematic examination of this drug is wanted. The same is required in the case of *Cereus grandiflorus*, *Citrullus colocynthis*, and *Cassia fistula*; in the case of colocynth the bitter glucoside, colocynthin, residing in the pulp but not in the seeds, is little understood, whilst it is not known to what the laxative properties of cassia pulp are due. The petals of the red poppy (*Papaver rhœas*) come in the same category; they contain a red colouring matter which is said to be due to two acids—viz., rhœdic and papaveric acids. Lastly, senna fruits have come into use in place of the leaves; it is desirable to know whether or not the constituents of the fruits and of the leaves are identical in composition and in amount.

Chemical Problems.

There are many problems, in this as well as in the other sections, which belong to the domain of the pharmacist alone—e.g., the improvement of the official process for the preparation of hydrargyri oleas. The subject of standardisation, however, is of direct importance to the medical profession. It is significant that the galenical preparations of most of the potent drugs in the Pharmacopœia still remain unstandardised; thus, aconite, stramonium, strophanthus, calabar bean, and colchicum may be cited. Ergot is another drug of immense importance for which there is no official process of standardisation. The well-known fact that ergot and its preparations do not maintain their potency indefinitely renders it very desirable that the next Pharmacopœia should remedy this deficiency. If it be found in this and in other drugs that chemical processes of assay are unsuitable or untrustworthy, then it is a question worthy of serious consideration whether steps should not be taken to establish trustworthy physiological standards of strength. It is noteworthy that a preparation of *Cannabis indica* which can be depended upon to contain the active principle of the drug is still a desideratum. Another point to be settled is the relative values of the two official senna leaves, the Indian and the Alexandrian. The Pharmacopœia permits them to be used indifferently.

Materia Medica.

Two questions only will be referred to. In the official decoctum aloes compositum the use of saffron has long been a debatable question. As saffron is a costly drug the suggestion has been made that a less expensive flavouring agent should be substituted. It has yet to be proved, however, whether or not saffron is used merely as a flavouring agent. In ancient times it was used externally as well as internally as a medicine; it would scarcely enter into external applications for the sake of its colour and certainly not for its taste. According to Hanbury and Flückiger[3] saffron is of no use as a medicine and it retains a place in the Pharmacopœia solely on the ground of its utility as a colouring agent. Until this drug has been pharmacologically tested and found useless there is no evidence to warrant its exclusion from the Pharmacopœia except the fact that no definite principle obtained from it has been proved to have any particular pharmacological value. Several definite constituents have, however, been obtained from saffron, notably the glucoside crocin, an amorphous red colouring matter; picrocrocin, a colourless bitter principle; and volatile oil. The stimulant, antispasmodic, and emmenagogue properties ascribed to saffron, while lacking proof, are an argument in favour of its retention until the drug shall be proved to be useless. According to Sir Lauder Brunton[4] saffron has but little action. In this connexion it is of literary interest to mention that even from the earliest times saffron has been a costly drug. Thus, both Dioscorides and Pliny refer to the frauds practised on it, the latter remarking: "Adulteratur nihil æque." Lastly, the Research List of the British Pharmaceutical Conference suggests researches into the effects of cultivation, soil, climate, and time of collection on medicinal plants. Pharmaceutical chemists and others have been, and still are, steadily working out problems of this nature, but except in a few instances inquiries into the chemical and physiological characters of the principles of plants have not gone hand in hand. It is very desirable that in the future medical practitioners and pharmaceutical or other chemists should join hands in similar investigations, as has been done notably in the case of aconite by Professor Cash and Professor Wyndham R. Dunstan.

[3] Pharmacographia, p. 668.
[4] Pharmacology, Therapeutics, and Materia Medica, p. 1039.

Looking Back.

FROM

THE LANCET, *SUNDAY, FEB.* 15, 1824.

ST. THOMAS'S HOSPITAL.

FEB. 13.

Case of Ague, cured by the Sulphate of Quinine.

JOHN L. of Peterborough, æt. 32, was admitted into George's ward of this hospital Feb. 5th, with ague: says that for a fortnight previous to his admission he had been seized with a fit of shivering every second day, about eleven o'clock in the morning, which continued on him for about four hours. The patient was immediately ordered by Dr. ELLIOTSON, under whose care he is, three grains of sulphate of quinine every six hours, dissolved in water, with a minim of diluted sulphuric acid. Since he has taken this medicine, the shivering fit has not returned. Last year this same man had an attack of ague, which continued on him for four months.

Case of sphacelus of the left foot.

Continued from page 158.

The granulations at the lower part of the left leg appear quite healthy. The right leg and foot have been swollen lately, but they have resumed their natural size. The same applications are continued.

Operations.—Feb. 13. A child three years old, underwent the operation of lithotomy. Two calculi were removed; the instrument used in dividing the prostate gland was Mr. BLIZARD'S knife. The operator was Mr. TYRRELL.

A small cancer scroti, known by the name of the chimney-sweeper's cancer, was this day removed from one of those unfortunate individuals who are subjected to this disease by the nature of their occupation.—The complaint was quite in the incipient stage, the patient having first perceived it towards the latter end of last December. The part affected was not larger over than a sixpence, and it had on its surface a thin scab or incrustation of matter, with hard and slightly elevated edges—it was completely excised—one vessel secured—and a suture applied to the wound, to bring the edges together, and, lastly, strips of adhesive plaster were applied. The part removed was shewn to those present; when cut into, it had a whitish appearance.

A small carcinomatous tumour was also removed from just below the under lid of the left eye, and a little to the outer side.

Both operations were performed by Mr. GREEN.

The only accident worth noticing, is a fracture of the skull, from a kick of a horse, the history of which case we will give at some future time.

The nuisances we complained of last week, viz. the vending of porter, fruit, &c. in the wards of the Borough hospitals have not been stopt, therefore we shall take an early opportunity of showing the evil consequences that arise from them, and the degree of culpability attached to the different officers for allowing them to exist.

THE SANITARY INSTITUTE.

DISCUSSION ON THE PREVENTION OF SMALL-POX IN LONDON.

AT a sessional meeting of the Sanitary Institute held in the Parkes Museum on Feb. 12th, under the chairmanship of Sir JAMES CRICHTON-BROWNE, Mr. A. WYNTER BLYTH opened a discussion on the Prevention of Small-pox in the Metropolis.

Mr. WYNTER BLYTH (medical officer of health of St. Marylebone) said that the various plagues which fell on man and beast occurred with a certain periodicity—that is to say, there were seasons of activity alternating with seasons of quiescence. In the latter periods inflammable material accumulated awaiting only a spark to flare up and be in part consumed. With regard to immunity from small-pox one attack of that disease usually immunised throughout life, but he had seen a man, aged 65 years, who was badly pitted from small-pox contracted when he was 20 years of age die from the confluent form of that malady. Vaccination inoculated a something so much akin to small-pox that it conferred the same kind of immunity but since a man might have small-pox twice it was foolish to expect a life-long immunity from a vaccination in childhood, for no one contended that vaccination protected longer or more efficiently than small-pox itself. Crude statistics threw unmerited discredit on revaccination. In the Sheffield epidemic there were 830 soldiers all of whom had been revaccinated some time or other. 12 of those men caught small-pox, but it was elicited that the revaccination in no one of the 12 had taken. Such a fact, to his mind, only showed that the operation ought to have been repeated and that it had not been properly performed. If one of the great scientific "magi" were to discover some wonderful fluid which would protect children from scarlet fever it would probably render scarlet fever no longer mainly a disease of children and the age-period most prone to the infection would be that from 15 to 25 years. The malady itself would also become rare from the lessened amount of infection. What he had pictured as possible with regard to scarlet fever had actually happened with regard to small-pox. The wonderful fluid that prevented small-pox had been discovered, but its influence as age advanced got weaker and weaker. He quoted statistics to show that as vaccination increased the incidence of the disease decreased in childhood but increased in adolescence. From preliminary statistics recently published by the Asylums Board he drew the conclusion that owing to the protection of vaccine lasting from five to 15 years the main incidence of small-pox was on adults, the least incidence being on children. This incidence, the effect of primary vaccination protecting children, was manifested in various local epidemics during past years. He contrasted the immunity of the revaccinated nurses in the small-pox hospitals with the rapidity with which small-pox spread in a partially protected community when the slightest chance contact bore fruit and from one single case 10 or even 20 others might have been directly derived. Discussing the influence of sanitary conditions on small-pox Mr. Blyth contended that no connexion had been established between insanitary conditions and the spread of small-pox in any epidemic. The one single condition that predominated over all sanitary conditions was the immunity acquired either from a previous attack of small-pox or from efficient vaccination. One of the most marked illustrations of this great truth was furnished by an incident which occurred in the Leicester epidemic. The small-pox hospital staff there consisted of 40 persons. Of these 34 were more or less immune either from a previous revaccination or a previous attack of small-pox. One of these protected persons, whose revaccination was 10 years old, suffered from a mild attack of small-pox. Of the remaining six nurses who refused revaccination five out of the six contracted small-pox and one died from the disease The whole 40 persons were exposed to precisely the same sanitary conditions, and yet the malady selected the only group which medical opinion would have selected as insufficiently protected. Concerning the question whether the season of the year afforded grounds for what may be called a natural subsidence of the epidemic Mr. Blyth declared that so far as seasonal distribution could be judged the malady was likely, unless the efforts of the local authorities were aided by the public, to increase up to May and not decline until the first or second week in June. It was perfectly possible to arrest the epidemic in a single week. Beyond all disinfecting sprinklings, all cleansing of sewers, drains, and even persons, even beyond all hospital isolation, revaccination and vaccination formed the only potent preventive. In the romance of Samuel Butler entitled "Erewhon," a land was fabled in which illness of any kind was treated as criminal. However far-fetched such a notion with regard to maladies not arising from personal filth, immorality, or dissipation was, it was not so with regard to diseases which could be avoided by individual effort and which were dangerous to the public and seriously interfered with trade; such neglect was in its nature criminal and the time might come when it would be consistently treated as such. After isolation in hospital of a patient suffering from small-pox and after the usual disinfection and cleansing the question remained as to what should be done with those persons who had been in contact with the infectious sick and especially in regard to a class of persons homeless, generally very poor, and not a few amongst them indescribably filthy. The London County Council bribed such waifs to submit to virtual imprisonment to undergo quarantine. That at present was voluntary, but legislative enactment dealing with the matter was urgently needed.

Sir JAMES CRICHTON-BROWNE said that the perfect unanimity of opinion on the part of the medical profession in connexion with the prevention of small-pox was very striking and ought in itself powerfully to impress public opinion.

Dr. J. F. J. SYKES (medical officer of health of St. Pancras) detailed the beneficial effects following the appointment of medical referees for diagnosis in doubtful cases of small-pox.

Dr. J. G. GLOVER said that he wished to ventilate the question as to the inadequacy of the existing machinery for public vaccination. He called to their remembrance that it had been shown that the lymph supplied by the Government had no absolute monopoly of security. Some two years ago an investigation into the quality of the lymph supplied by Government and by private firms was made by THE LANCET, and it came out most distinctly that there were seven or eight lymphs as pure as the Government lymph. They knew that in Great Britain it did not do to trust everything to the Government. He agreed, however, that there should be some public standard to secure the purity of lymph. Dr. Glover also pointed out that the fact of rich people sending to the public vaccinator to be vaccinated prevented that officer from spending his time in vaccinating the poor. He recalled the fact that Glasgow had stopped its epidemic of small-pox by house-to-house visitation for the purpose of vaccination.

Dr. P. C. SMITH (medical officer of health of Wandsworth) recommended compulsory vaccination for every "contact" they came across.

Mr. SHIRLEY F. MURPHY (medical officer of health of the Administrative County of London), Dr. W. A. BOND (medical officer of health of Holborn), Mr. H. W. G. MACLEOD, and Mr. W. G. KERSHAW also addressed the meeting, which terminated with a hearty vote of thanks to the Chairman.

ASYLUM REPORTS.

Farlswood Asylum, Redhill, Surrey (Annual Report for 1900).—The asylum admits idiots and imbeciles of higher mental grade. The average number of patients resident during the year was 529 and comprised 346 males and 183 females. The number of patients admitted during the year was 47—viz., 32 males and 15 females. Of the admissions six males and five females were over the age of 20 years, while the average age for males was 11·2 years and for females 16·14 years. A considerable proportion of the admissions, amounting to 23·4 per cent., consisted of epileptics—"a high rate for a class of case for which no prospect of permanent improvement can be offered." Dr. Charles Caldecott, the medical superintendent, states in his report that with the exception of epileptics the admissions are of a hopeful type for education and training. High-grade imbecile patients benefit to a great extent by the teaching and training received at the institution. "I regret," says Dr. Caldecott, "that persistent efforts should still be made to legislate for

this special type under the designation of 'feeble-minded.' I am still firmly convinced that this term should not be used in this restricted sense, but generally, and should embrace all classes and types of congenitally mentally deficient persons ..... and that our imbecile institutions should, as is done in America, call themselves 'schools for the feeble-minded'; by this means many parents who from one reason or other refuse to have their children branded as idiots would no longer hesitate to take the advantages which our institutions so ably afford." During the year 65 patients were discharged as relieved. "It is very gratifying to be able to report that some of these were much benefited by their period of residence, three being to a large extent self-supporting and one earning 25*s.* per week." The deaths during the year amounted to 15—viz., 11 males and four females, or 2·8 per cent. of the average number resident. Of the deaths, four each were due to epilepsy and phthisis, two to valvular disease of the heart, two to spinal caries, and one each to "scrofula, tuberculosis, and diarrhœa." There had been no infectious disease, with the exception of a few cases of chicken-pox. Important alterations and improvements have been made in the heating, lighting, ventilation, and sanitation of the building. The board of management states in its report that the work in progress for the above alterations and improvements will involve an expenditure of nearly £15,000. Among the donations received is a sum of £1000 from an anonymous donor. Various legacies have also been received during the year. A conference was held, by the invitation of the Duchess of Sutherland, at Stafford House on June 27th, 1901, of the chairmen, superintendents, and secretaries of the four following voluntary asylums for idiots and imbeciles, the institutions represented being Earlswood Asylum and the idiot asylums of Lancaster, Colchester, and Starcross (Exeter). The object of the conference was "to consider how far coöperation between institutions for imbeciles and the National Association for Promoting the Welfare of the Feeble-minded is practicable and desirable." Unfortunately, the conference ended without any practical results as to the object desired.

Roxburgh, Berwick, and Selkirk District Asylum, Melrose (Report for the year ending May 15th, 1901).—The average number of patients resident during the year was 307, comprising 142 males and 165 females. The admissions during the year amounted to 58—viz., 30 males and 28 females. Of these 42 were first admissions. Dr. J. Carlyle Johnstone, the medical superintendent, states in his report that the ordinary rate of board charged for private patients is £40 a year, but that patients in straitened circumstances are received at lower rates when the board of management is furnished with satisfactory proof that the full rate cannot be paid. "Owing to want of accommodation, however, admission continues to be refused to all private patients except such as cannot possibly be provided for in other asylums or elsewhere." Hereditary predisposition to mental disorder was ascertained to exist in 34 of the patients admitted, or 58 per cent. In 28 cases (48 per cent.) suicidal tendencies were present and of these patients six had made serious attempts to terminate their lives before entering the asylum. The physical condition of the patients admitted was good or average in nine cases, bad in 45 cases, and very bad in four cases. In about 50 per cent. of the admissions the patients suffered from some form or other of serious bodily disease. "As usual, there was a large proportion of aged, congenital and chronic, or relapsed cases, and in only a small percentage could ultimate recovery be expected, while from the nature of their bodily and mental infirmities many of the cases were such as to require skilled nursing and hospital treatment." The number of patients discharged as recovered during the year amounted to 15—viz., nine males and six females—or 4·8 per cent. of the average number resident. The deaths during the year amounted to 16—viz., 10 males and six females—or 5· per cent., as calculated on the same basis. Of the deaths one was due to aneurysm of the aorta, two to senile decay, four to pulmonary tuberculosis, five to general paralysis, and the rest to other causes. In 12 out of the 16 cases the cause of death was verified by post-mortem examination. The general health of the institution was good and there was no epidemic disorder. "The overcrowding of the male side continues," says Dr. Johnstone, "to increase. The arrangements afforded by the old wards for the treatment of recent and curable cases, the nursing of the sick, and the safeguarding of dangerous and anxious cases, are quite inadequate and unsuitable. The male patients do not, in fact, receive that quality of care and treatment ..... which can only be provided for them in an institution thoroughly equipped in accordance with those principles of science and humanity which govern the modern treatment of the insane. ..... Plans and specifications for the erection of a hospital block for male patients, of a similar description to the female hospital (which serves its purpose admirably), are now receiving the consideration of the board." The Commissioner in Lunacy states in his report that the general condition of the patients was highly satisfactory, that the medical case-books and records of necropsies were well kept, and that evidences of able and careful administration were everywhere apparent.

Northumberland County Asylum (Report for the year ending March 31st, 1901).—The average number of patients resident during the year was 634 and comprised 357 males and 277 females. The admissions during the year amounted to 181—viz., 90 males and 91 females. Of these 151 were first admissions. Dr. T. W. McDowall, the medical superintendent, states in his report that the admission-rate remains high and that many unfavourable cases continue to be received. "The average number resident was the highest since the opening of the asylum. This continued increase of male patients causes much overcrowding." For some years the work of the medical staff has been growing unduly heavy, and at the beginning of the year it was decided to appoint a female assistant medical officer for the female wards, and the appointment was made shortly afterwards. The number of patients discharged as recovered during the year amounted to 75—viz., 39 males and 36 females—or 11·8 per cent. of the average number resident. The deaths during the year amounted to 68, or 10·7 per cent., as calculated on the same basis. Of the deaths four were due to senile decay, five to melancholia, six to cardiac disease, 13 to general paralysis of the insane, 15 to phthisis and other forms of tuberculosis, and the rest to other causes. The Commissioners in Lunacy state in their report that the wards were clean and well furnished, the beds and dormitories in proper condition, the patients quiet and orderly and neatly clothed, and the medical records fully and intelligently kept. The committee of management state in its report that plans and estimates have been prepared for the erection of an isolation hospital. The rate of maintenance of pauper patients remains unchanged at 10*s.* 6*d.* per head per week.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

A QUARTERLY meeting of the Royal College of Physicians of Edinburgh was held on Feb. 4th, Dr. T. R. Fraser, the President, being in the chair.—Dr. D. J. Graham was introduced and took his seat as a Fellow of the College.—Dr. F. J. Tresilian and Dr. J. R. Gilmour were admitted by ballot to the Fellowship of the College.—On a ballot three candidates were admitted to the Membership of the College, after examination.—The Registrar reported that since the last quarterly meeting 33 persons had obtained the Licence of the College by examination.—The Secretary reported that the Council had resolved to offer the Parkin Prize for competition during the current year, the subject to be, in terms of the bequest, "On the Curative Effects of Carbonic Acid Gas or other Forms of Carbon in Cholera, for Different Forms of Fever and Other Diseases." Essays will be received by the Secretary up to Dec. 31st, 1902.—Intimation was made that the Council had determined to defer the award of the Freeland Barbour Fellowship from February to May biennially.—The President announced that the Council had nominated the President and Vice-President for the time being to be delegates to the Fourteenth International Medical Congress at Madrid.—The Secretary read a statement which had been prepared by the Council and transmitted to the Secretary for War and the Secretary for Scotland, protesting against the proposed representation of Scotland on the Advisory Board of the Royal Army Medical Corps as not calculated to give the medical profession of Scotland, from whose medical schools a large percentage of successful candidates for the Royal Army Medical Corps is annually supplied, the confidence that is desirable in the work of the Board. The conviction was expressed that the proposed appointment would lead to widespread dissatisfaction.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9045 births and 5875 deaths were registered during the week ending Feb. 8th. The annual rate of mortality in these towns, which had been 17·7, 17·7, and 17·9 per 1000 in the three preceding weeks, further rose to 20·6 per 1000 last week. In London the death-rate was 22·5 per 1000, while it averaged 19·8 in the 75 other large towns. The lowest death-rates in these towns were 8·8 in Coventry, 9·6 in West Hartlepool, 12·5 in Derby, 12·9 in Grimsby, 13·1 in Hornsey, and 13·5 in East Ham; the highest rates were 26·0 in Burnley, 26·1 in Rotherham, 26·3 in Rhondda, 26·8 in Sunderland, 28·0 in Wigan and Preston, and 28·8 in Merthyr Tydfil. The 5875 deaths in these towns last week included 583 which were referred to the principal zymotic diseases, against 534 and 512 in the two preceding weeks; of these 583 deaths 129 resulted from whooping-cough, 127 from measles, 102 from diphtheria, 77 from small-pox, 60 from scarlet fever, 49 from "fever" (principally enteric), and 39 from diarrhœa. No death from any of these diseases was recorded in Hastings, Burton-on-Trent, Handsworth, Smethwick, Grimsby, Derby, Wallasey, Tynemouth, or Newport (Mon.); in the other towns the highest zymotic mortality occurred in East Ham, Bournemouth, Aston Manor, Rotherham, Stockton-on-Tees, and Rhondda. The greatest proportional mortality from measles was recorded in Rotherham, Stockton-on-Tees, and Merthyr Tydfil; from "fever" in South Shields and Gateshead; from diphtheria in Willesden, Portsmouth, Bournemouth, Hanley, and Cardiff; from whooping-cough in East Ham, Plymouth, Aston Manor, Liverpool, Stockton-on-Tees, and Rhondda; and from "fever" in Walsall and West Hartlepool. 64 deaths from small-pox of persons belonging to London were registered last week, seven of persons belonging to West Ham, three to Tottenham, and one each to Walthamstow, Reading, and Swansea, but not one to any other of the 76 large towns. There were 1102 small-pox patients under treatment in the Metropolitan Asylums hospitals on Saturday, Feb. 8th, against 877, 870, and 1135 at the end of the three preceding weeks; 287 new cases were admitted during the week, against 213, 204, and 499 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2500, against numbers decreasing from 3137 to 2554 on the six preceding Saturdays; 227 new cases were admitted during the week, against 288, 299, and 226 in the three preceding weeks. The deaths in London referred to diseases of the respiratory organs, which had been 307, 357, and 375 in the three preceding weeks, further rose last week to 486, and were 32 above the corrected average. Influenza was certified as the primary cause of 40 deaths in London last week, against 23, 18, and 26 in the three preceding weeks. The causes of 81, or 1·4 per cent., of the deaths in the 76 towns last week were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bolton, Salford, Newcastle, Cardiff, and 32 other smaller towns; the largest proportions of uncertified deaths were registered in Portsmouth, Birmingham, Liverpool, St. Helens, Warrington, Preston, Sheffield, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·3 and 21·8 per 1000 in the two preceding weeks, further increased to 23·9 per 1000 during the week ending Feb. 8th, and exceeded by 3·3 per 1000 the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 20·5 in Leith and 23·1 in Dundee to 24·3 in Edinburgh and 26·5 in Greenock. The 771 deaths in these towns included 23 which were referred to diarrhœa, 19 to measles, 17 to whooping-cough, 10 to scarlet fever, eight to diphtheria, five to "fever," and one to small-pox. In all 83 deaths resulted from these principal zymotic diseases last week, against 76 and 66 in the two preceding weeks. These 83 deaths were equal to an annual rate of 2·6 per 1000, which was 0·6 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 20 and eight in the two preceding weeks, rose again last week to 23, of which nine occurred in Glasgow, five in Dundee, four in Edinburgh, and three in Aberdeen. The deaths from measles, which had been 31 and 23 in the two preceding weeks, further declined to 19 last week, and included 16 in Glasgow and two in Greenock. The fatal cases of whooping-cough, which had been 11, 13, and 19 in the three preceding weeks, declined again last week to 17, of which 10 were registered in Glasgow, four in Paisley, and two in Aberdeen. The deaths from scarlet fever, which had been four and seven in the two preceding weeks, further rose to 10 last week, and included five in Glasgow, two in Aberdeen, and two in Greenock. The fatal cases of diphtheria, which had been five in each of the two preceding weeks, increased last week to eight, of which four occurred in Glasgow and two in Aberdeen. The deaths referred to different forms of "fever," which had been four, three, and three in the three preceding weeks, rose again to five last week, and included two in Glasgow and two in Edinburgh. The fatal case of small-pox was registered in Glasgow. The deaths from diseases of the respiratory organs in these towns, which had been 128 and 141 in the two preceding weeks, further rose last week to 173, and were 15 in excess of the number in the corresponding period of last year. The causes of 21, or nearly 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 20·9 and 22·7 per 1000 in the two preceding weeks, further rose to 23·8 per 1000 during the week ending Feb. 8th. During the past four weeks the death-rate has averaged 22·7 per 1000, the rates during the same period being 19·8 in London and 19·9 in Edinburgh. The 173 deaths of persons belonging to Dublin registered during the week under notice were eight in excess of the number in the preceding week, and included five which were referred to the principal zymotic diseases, against six, eight, and four in the three preceding weeks; of these, two resulted from whooping-cough, two from "fever," and one from diarrhœa. These five deaths were equal to an annual rate of 0·7 per 1000, the zymotic death-rate last week being 2·4 in London and 1·1 in Edinburgh. The 173 deaths in Dublin last week included 28 of children under one year of age and 45 of persons aged upwards of 60 years; the deaths of infants considerably exceeded the number recorded in the preceding week, while those of elderly persons showed a decline. Three inquest cases and five deaths from violence were registered; and 53, or nearly one-third, of the deaths occurred in public institutions. The causes of 14, or more than 8 per cent., of the deaths in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING 1901.

Complete statistics relating to sickness and mortality during the year 1901 in each of the cities and boroughs in the county of London are summarised in the accompanying table. The mortality figures relate to the deaths of persons actually belonging to the various metropolitan boroughs, and are the result of a complete system of distribution of deaths occurring in the institutions of London among the various boroughs in which the patients had previously resided. With regard to the notified cases of infectious diseases in London during 1901, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 8·9 per 1000 of the population, estimated at 4,543,757 persons in the middle of last year. In the three preceding years the rates had been 8·3, 9·3, and 7·7 per 1000 respectively. Among the various metropolitan boroughs the lowest rates were 5·3 in Chelsea, 5·6 in the City of Westminster, 5·9 in Kensington and in Hampstead, and 6·0 in Woolwich; the highest rates were 11·3 in St. Pancras and in Southwark, 11·4 in Hackney, 12·9 in Bethnal Green and in Bermondsey, and 13·1 in Holborn. The prevalence of small-pox in London during 1901 greatly exceeded that in any recent year; the number of new cases notified during the year was 1702, against 32, 29, and 88 in the three preceding years. This disease was proportionally most prevalent in the City of Westminster, St. Marylebone, St. Pancras, Holborn, Finsbury, and Bermondsey. The number of small-pox patients admitted into the Metropolitan Asylums hospitals during 1901 was 1788, and 666 remained under treatment at the end of the year. The prevalence

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING THE YEAR 1901.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1901.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.													
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœal diseases.	Total.	Annual rate per 1000 persons living.	Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
LONDON	**4,543,757**	**1702**	**18,390**	**12,154**	**20**	**3195**	**48**	**251**	**4606**	**3**	**40,369**	**8·9**	**229**	**1952**	**584**	**1330**	**1604**	**4**	**497**	**7**	**3900**	**10,107**	**2·22**	**77,663**	**17·1**	**148**
West Districts.																										
Paddington	144,154	21	506	340	—	92	—	13	141	—	1113	7·7	—	9	11	46	52	—	15	—	116	249	1·72	2060	14·3	136
Kensington	176,787	15	476	251	2	99	8	10	171	—	1032	5·9	1	76	15	38	62	1	11	—	117	321	1·83	2675	15·2	163
Hammersmith	112,619	45	346	226	—	77	2	3	116	—	815	7·3	15	47	14	36	80	—	16	—	115	323	2·86	1914	17·0	168
Fulham	138,426	16	600	644	—	133	1	7	132	1	1534	11·1	3	38	20	48	77	—	20	2	181	389	2·81	2181	15·8	152
Chelsea	73,879	5	190	107	—	41	—	4	47	—	394	5·3	1	9	5	9	29	—	6	—	38	97	1·31	1223	16·6	138
City of Westminster	182,502	100	478	255	—	105	2	6	117	—	1063	5·8	16	59	11	21	48	—	20	—	70	245	1·34	2906	16·0	135
North Districts.																										
St. Marylebone	133,060	79	397	259	—	82	—	4	183	—	1004	7·6	7	9	18	33	40	—	8	—	104	219	1·65	2207	16·6	107
Hampstead	82,287	7	219	153	—	50	1	5	48	—	483	5·9	2	1	4	20	24	—	7	—	26	84	1·02	874	10·7	104
St. Pancras	235,297	256	991	942	—	186	2	13	253	—	2643	11·3	41	68	33	109	87	—	30	—	195	563	2·39	4291	18·3	154
Islington	335,325	62	1291	913	2	281	4	33	286	—	2872	8·6	8	157	30	132	90	—	47	—	198	662	1·97	5364	16·0	140
Stoke Newington	51,328	19	172	144	—	26	—	4	41	—	406	7·9	3	8	4	14	6	—	5	—	25	65	1·28	674	13·2	115
Hackney	219,780	41	933	978	1	192	1	16	327	1	2490	11·4	5	94	26	97	50	—	20	—	179	471	2·15	3455	15·8	135
Central Districts.																										
Holborn	59,205	216	258	167	1	39	—	2	89	—	772	13·1	30	23	3	15	10	—	12	—	42	135	2·28	1186	20·1	124
Finsbury	101,233	93	502	297	—	68	1	5	135	—	1101	10·9	7	48	18	36	38	—	11	—	121	279	2·78	2166	21·4	142
City of London	26,927	8	110	67	—	21	—	1	13	—	220	8·3	2	1	4	8	2	—	3	—	8	28	1·06	534	20·1	175
East Districts.																										
Shoreditch	118,564	18	557	326	—	97	10	6	142	—	1156	9·8	5	75	20	29	60	—	10	—	155	354	2·99	2591	21·9	197
Bethnal Green	129,700	32	841	463	1	108	2	8	211	—	1666	12·9	2	88	44	63	38	—	19	1	117	372	2·88	2628	20·3	153
Stepney	298,884	161	1177	845	2	267	—	16	372	—	2840	9·5	22	180	42	76	98	1	44	—	298	761	2·54	6218	20·9	163
Poplar	168,887	71	561	619	—	173	—	6	187	—	1617	9·6	10	89	14	83	79	—	26	—	213	514	3·04	3364	20·0	165
South Districts.																										
Southwark	206,219	89	1301	558	—	135	—	5	242	—	2330	11·3	14	161	54	53	98	—	18	—	222	620	3·02	4416	21·5	168
Bermondsey	130,348	107	932	330	1	150	—	5	155	—	1680	12·9	14	81	44	37	57	—	22	—	122	377	2·90	2718	20·9	169
Lambeth	302,460	51	1039	527	—	144	6	14	239	1	2021	6·7	4	122	38	51	115	—	23	3	293	649	2·15	5204	17·3	139
Battersea	169,364	53	602	267	—	91	—	8	126	—	1147	6·8	2	132	10	20	81	—	18	—	202	465	2·76	2773	16·4	163
Wandsworth	233,943	32	689	478	—	99	1	14	225	—	1538	6·6	3	65	17	41	62	—	16	1	157	362	1·55	3118	13·4	132
Camberwell	259,897	54	1474	867	—	155	1	19	228	—	2798	10·8	7	152	47	112	84	—	25	—	204	631	2·44	4268	16·5	142
Deptford	110,732	4	549	427	9	63	2	2	111	—	1167	10·6	1	53	17	37	50	2	10	—	104	274	2·48	1818	16·5	146
Greenwich	96,188	11	419	188	—	68	—	6	110	—	802	8·4	3	55	5	22	39	—	10	—	75	209	2·17	1463	15·3	130
Lewisham	128,423	12	465	299	1	61	1	8	86	—	933	7·3	—	31	11	24	28	—	13	—	104	211	1·65	1665	13·0	129
Woolwich	117,619	23	310	217	—	69	1	8	70	—	698	6·0	1	21	5	20	20	—	12	—	99	178	1·51	1709	14·6	129
Port of London	—	1	5	—	—	23	2	—	3	—	34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

of scarlet fever during the year under notice was considerably greater than in the preceding year; the number of new cases notified being 18,390, against 16,894, 18,094, and 13,809 in the three preceding years. Among the various metropolitan boroughs scarlet fever was proportionately most prevalent in Finsbury, Shoreditch, Bethnal Green, Southwark, Bermondsey, Camberwell, and Deptford. During last year 14,959 scarlet fever patients were admitted into the Metropolitan Asylums Hospitals, against 12,480, 13,641, and 10,734 in the three preceding years; the number of cases under treatment, which had been 2883, 2797, and 2460 at the end of the three preceding years, had risen again to 3080 on Saturday, Dec. 28th, 1901. The prevalence of diphtheria during last year showed a slight increase over that recorded in the preceding year, 12,154 new cases being notified, against 13,692 and 11,994 in the two preceding years. The greatest proportional prevalence of this disease occurred in Fulham, St. Pancras, Hackney, Bethnal Green, Poplar, Camberwell, and Deptford. The Metropolitan Asylums Hospitals contained 1369 diphtheria patients at the end of the year, against 1674 and 1343 at the end of the two preceding years; the new cases admitted, which had numbered 8777 in the preceding year, rose to 9090 during 1901. Enteric fever showed a considerably diminished prevalence last year, only 3195 cases being notified, against 4456 and 4306 respectively in the two preceding years; among the various metropolitan boroughs this disease was proportionally most prevalent in Fulham, Hackney, Bethnal Green, Stepney, Poplar, and Bermondsey. The number of enteric fever patients admitted into the Metropolitan Asylums Hospitals during 1901 was 1480, against 1116, 1835, and 2074 in the three preceding years; 195 cases remained under treatment at the end of December last, against 406 and 403 at the end of the two preceding years. Erysipelas showed the highest proportional prevalence during last year in Hackney, Holborn, Finsbury, Bethnal Green, Stepney, Southwark, and Bermondsey. The 251 notified cases of puerperal fever showed an increase of 14 over the number recorded during 1900; 33 cases belonged to Islington, 19 to Camberwell, 16 to Hackney, 16 to Stepney, 14 to Lambeth, 14 to Wandsworth, 13 to Paddington, and 13 to St. Pancras.

During the year under notice the deaths of 77,663 persons belonging to London were registered, equal to an annual rate of 17·1 per 1000, against 18·5, 19·6, and 18·7 in the three preceding years, 1898, 1899, and 1900; the average rate in the 10 years 1891–1900 being 19·2 per 1000. In the various metropolitan boroughs the lowest death-rates were 10·7 in Hampstead, 13·0 in Lewisham, 13·2 in Stoke Newington, 13·4 in Wandsworth, 14·3 in Paddington, and 14·6 in Woolwich; and the highest rates 20·3 in Bethnal Green, 20·9 in Stepney and in Bermondsey, 21·4 in Finsbury, 21·5 in Southwark, and 21·9 in Shoreditch. Taking the five groups of boroughs the rates of mortality during 1901 were 15·7 in the west, 16·0 in the north, 16·7 in the south, 20·7 in the east, and 20·8 in the central. To the principal zymotic diseases 10,107 deaths were attributed during the year; of these, 3900 resulted from diarrhœal diseases, 1952 from measles, 1604 from whooping-cough, 1330 from diphtheria, 584 from scarlet fever, 508 from different forms of "fever" (including four from typhus, 497 from enteric fever, and seven from simple continued fever), and 229 from small-pox. These 10,107 deaths were equal to an annual rate of 2·22 per 1000, against 2·84, 2·52, and 2·24 in the three preceding years. Among the various metropolitan boroughs the zymotic death-rates ranged from 1·02 in Hampstead, 1·06 in the City of London, 1·28 in Stoke Newington, 1·31 in Chelsea, 1·34 in City of Westminster, 1·51 in Woolwich, and 1·55 in Wandsworth, to 2·86 in Hammersmith, 2·88 in Bethnal Green, 2·90 in Bermondsey, 2·99 in Shoreditch, 3·02 in Southwark, and 3·04 in Poplar. The 229 fatal cases of small-pox showed an excess of 186 over the corrected average number in the 10 preceding years; the greatest proportional mortality from this disease occurred in Hammersmith, City of Westminster, St. Pancras, Holborn, Stepney, Southwark, and Bermondsey. The 1952 deaths referred to measles were 707 below the average number in the 10 preceding years; among the various metropolitan boroughs the disease was proportionally most fatal in Shoreditch, Bethnal Green, Stepney, Southwark, Bermondsey, and Battersea. The 584 fatal cases of scarlet fever showed a decline of 275 from the corrected decennial average, the highest death-rates from this disease being recorded in Finsbury, Shoreditch, Bethnal Green, Southwark, Bermondsey, and Camberwell. The 1330 deaths referred to diphtheria were 918 below the average number in the 10 preceding years; among the various metropolitan boroughs this disease was proportionately most fatal in St. Pancras, Islington, Hackney, Bethnal Green, Poplar, and Camberwell. The 1604 fatal cases of whooping-cough showed a decline of 679 from the corrected average number; this disease showed the highest proportional fatality in Hammersmith, Fulham, Shoreditch, Poplar, Southwark, and Battersea. The 508 deaths referred to different forms of "fever" were 120 below the average number in the 10 preceding years; among the various metropolitan boroughs the fever death-rate was highest in Fulham, Holborn, Bethnal Green, Stepney, Poplar, and Bermondsey. The 3900 deaths from diarrhœal diseases exceeded the average number by nearly 400; the greatest proportional mortality from these diseases occurred in Fulham, Finsbury, Shoreditch, Poplar, Southwark, and Battersea. In conclusion, it may be stated that the mortality in London during 1901 from the zymotic diseases in the aggregate was 17·1 per cent. below the average.

Infant mortality in London last year, measured by the proportion of deaths under one year of age to registered births, was equal to 148 per 1000, against 166, 166, and 158 in the three preceding years. The rates of infant mortality in the various metropolitan boroughs ranged from 104 in Hampstead, 107 in St. Marylebone, 115 in Stoke Newington, 124 in Holborn, and 129 in Lewisham and in Woolwich; the highest rates were 165 in Poplar, 168 in Hammersmith and in Southwark, 169 in Bermondsey, 175 in the City of London, and 197 in Shoreditch.

THE SERVICES.

ARMY MEDICAL SERVICE.

Surgeon-General Henry S. Muir, C.B., is placed on retired pay. Dated Jan. 1st, 1902.

ROYAL ARMY MEDICAL CORPS.

Captain J. Grech will shortly re-embark for South Africa. Lieutenant J. H. Robinson is appointed to the charge of the Station Hospital at Fort Attock.

Lieutenant-Colonel Christopher William Moore Keys is placed on retired pay. Dated Dec. 26th, 1901.

The undermentioned Captains to be Majors (dated Feb. 1st, 1902:—William Thomas Mould, Alfred William Bewley, Charles Alfred Stone, Herbert Edmond Winter, and Lewis Way.

The undermentioned Lieutenants to be Captains (dated Jan. 28th, 1902): Harold Percy Waller Barrow, John Edward Hodgson, Alec Lauriston Scott, Lionel Edmund Longworth Parker, James Geoffrey Gill, Matthew Henry Gregson Fell, Gerald Hamilton Goddard, William Bertram Winkfield, Thomas Campion Lauder, Jonas William Leake, John William Hobart Houghton, Duncan Edward Curme, Herbert Stockley Taylor, George Mills Goldsmith, Richard Harte Lloyd, David Harvey, John Macfarlane Sloan, Henry Evered Haymes, Francis John Brakenridge, George Constantine Phipps, Nathaniel John Crawford Rutherford, Gilbert John Anthony Ormsby, Harry Dixon Packer, Lawrence Humphrey, Robert Stuart Rodger, William Watson Scarlett, Horace Kemp Palmer, Arthur Oliver Bird Wroughton, and Frank Ashe.

Lieutenant Joseph R. Welland is seconded for service in Somaliland. Dated Jan. 3rd, 1902.

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion the Northumberland Fusiliers: Surgeon-Lieutenant H. Dickie to be Surgeon-Captain. 4th Volunteer Battalion the East Surrey Regiment: Surgeon-Lieutenant C. J. Martin to be Surgeon-Captain. 1st Nottinghamshire (Robin Hood): Surgeon-Lieutenant R. H. Cordeux to be Surgeon-Captain. 1st (Inverness-shire Highland) Volunteer Battalion the Queen's Own Cameron Highlanders: Brigade-Surgeon-Lieutenant-Colonel O. Grant is seconded whilst serving on the staff of a Volunteer Infantry Brigade.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The London Companies: Captain F. J. L. Warwick is appointed Transport Officer to the Division.

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

Surgeon-General Taylor, C.B., will present medals to the members of this school who served in the Rhodesian Field Hospital at the London Scottish headquarters, Buckingham-gate, S.W., at 9 P.M. on Monday, Feb. 17th.

VOLUNTEER MEDICAL STAFF CORPS.

The annual distribution of prizes to members of the Volunteer Medical Staff Corps will take place at the head-quarters, 51, Calthorpe-street, London, W.C., on Saturday, March 1st, at 8 P.M., when Surgeon-General Taylor, C.B., will preside. A dance will follow the distribution of prizes.

SOUTH AFRICAN WAR NOTES.

Lieutenant A. O. B. Wroughton, R.A.M.C., is reported progressing favourably and out of danger at Queenstown (Feb. 9th).

Civil Surgeon Bensusan is reported out of danger (Feb. 7th).

Civil Surgeon Fort is reported slightly worse (Feb. 7th).

AFFAIRS IN SOUTH AFRICA.

The purely military news from South Africa during the past week is somewhat mixed but is indicative of increased activity on both sides with the balance of advantage, on the whole, on the side of the British. The "wearing down" process as regards the Boer forces has been going on, and still seems to be going on at an accelerated pace, and that appears to sum up the situation. The main object of the carefully designed operations for surrounding and capturing that redoubtable tactician De Wet and his force in the Heilbron and Kroonstadt district distinctly failed. De Wet, taking advantage of a dark night, stampeded a herd of cattle against a part of the blockhouse line, broke through it, and made his escape. The War Office return of casualties reported since the begin-ning of the war up to and including last month shows that the total reduction of the military forces in South Africa, including deaths from all causes, missing, prisoners, and invalids who have been discharged from the service as unfit, amounts to 25,305, counting officers, non-commissioned officers, and men. As regards the forces now in the field it will be seen by the published sick returns that there is still a good deal of enteric fever, but that the health of the troops, speaking generally, is satisfactory.

THE MILITIA AND VOLUNTEER MEDICAL STAFF CORPS: CHANGES IN DESIGNATION.

The King, in consideration of the valuable services rendered by the Militia Medical Staff Corps and Volunteer Medical Staff Corps during the war in South Africa, has approved the following changes in the designation of the corps and in the titles of the officers:—The Militia Medical Staff Corps will be known as the Royal Army Medical Corps (Militia), and the Volunteer Medical Staff Corps as the Royal Army Medical Corps (Volunteers). The titles of the officers will be altered from Honorary Commandant and Honorary Surgeon-Colonel to Honorary-Colonel; Honorary Surgeon-Lieutenant-Colonel Commandant to Honorary Lieutenant-Colonel Commandant; Surgeon Lieutenant-Colonel to Lieutenant-Colonel; Surgeon-Major to Major; Surgeon-Captain to Captain; and Surgeon-Lieutenant to Lieutenant.

THE VICTORIA CROSS.

The King has signified his intention to confer the decoration of the Victoria Cross on the undermentioned officer for conspicuous bravery in South Africa:—

Surgeon-Captain T. J. Crean, 1st Imperial Light Horse.

During the action with De Wet at Tygerskloof, on Dec. 18th, 1901, this officer continued to attend to the wounded in the firing line, under a heavy fire at only 150 yards range, after he had himself been wounded, and only desisted when he was hit a second time and, as it was at first thought, mortally wounded.

SOLDIER CHIROPODISTS.

The issue of the Army order about the appointment of soldier chiropodists has been followed, we understand, by the publication of an official "Manual of Chiropody," which we have not yet seen. Such a manual, giving plain advice on the causes, nature, and treatment of the common ailments of the feet to which soldiers are exposed, should be very serviceable. The Americans, during their big war of rebellion, were the first, we believe, to employ chiropodists in the army.

Correspondence.

"Audi alteram partem."

"WHAT'S WHAT."

To the Editors of THE LANCET.

SIRS,—In a recent publication called "What's What" there is, I understand, a paragraph indicating various medical men by name as consultants, with my name among the number. I should have thought that it was quite unnecessary for me to say that I had nothing whatever to do with such a paragraph and was, indeed, quite ignorant of its existence until the other day. To my surprise, however, a paper called the *Medical Times and Hospital Gazette*, of the existence of which I was also unaware, was sent to me last week containing a most offensive paragraph which insinuates very pointedly that it is by no means certain that those whose names are mentioned in "What's What" are quite innocent in the matter. I wrote to the editor of "What's What" asking him to withdraw my name from his paragraph, and I inclose my letter and his reply and also a letter which I sent to the *Medical Times and Hospital Gazette*.

I am, Sirs, yours faithfully,

Feb. 11th, 1902. W. WATSON CHEYNE.

[INCLOSURES.]

To the Editor of "What's What."

Feb. 9th, 1902.

DEAR SIR,—My attention has been called to a paragraph in "What's What" in which a list of medical men is given containing, among others, my name. I feel sure that you did not at all realise how such a paragraph would affect those whose names are mentioned, otherwise you would not have inserted it. I presume your object in introducing it was that just as you tell elsewhere what people should do or see so you want to guide them if they are ill. If that was your object it would entirely fail, because patients, if they are wise, ask their family medical man whom they should consult and would not be at all guided by a paragraph in a book or newspaper. On the other hand, those whose names are mentioned in this way may suffer irreparable damage as the result. While the better-class practitioners would, of course, assume that such a paragraph was inserted entirely without our knowledge or consent and would know that we would not have anything to do with such an advertisement, there are, I am sorry to say, men in our profession, as in every other, with jealous and dirty minds who would assume that we were not innocent in the matter, and would employ this occurrence to blacken our characters in every way possible. I need only refer you to an article in yesterday's issue of the *Medical Times and Hospital Gazette* as an example of this. For these reasons I would strongly advise you to suppress this paragraph, and in any case I would beg of you to cut my name out of the list.

Yours faithfully,

W. WATSON CHEYNE.

Reply from the Editor of "What's What."

MY DEAR MR. WATSON CHEYNE,—With much that your letter contains I heartily agree, and I will gladly do as you ask with regard to your own name and in all probability with regard to the whole paragraph. I cannot, however, agree with you as to its being so great a crime to inform the public on these matters—nor that one's "family medical man" is in all cases the most fitting person to advise. How about the cases also where one has no "family medical man"? What is to happen then? The intention and the limitations of my paragraph in the appendix are very clearly stated and nobody in their senses could read it and not see that its origin was in personal opinion and experience and not in the desire to advertise anybody. In this troublous and troubling world, however, the best motives are liable to misrepresentation, and breaches of etiquette even by a layman are apparently "the unforgivable sin." I shall not again hurl myself so wantonly against the "footstool of justice" to serve the public; in this case they will have to look elsewhere for "what's what."

Meanwhile I could wish that all who differ from me would express themselves with your courtesy and moderation.

I have not seen the paragraph to which you allude in the *Medical Times*, but I can guess its tenor. Very truly yours,

Feb. 10th, 1902. HARRY QUILTER.

To the Editor of the "Medical Times and Hospital Gazette."

Feb. 9th, 1902.

SIR,—With reference to your paragraph on p. 85 in your issue of yesterday I do not know which is most offensive—viz., the original paragraph or the one in your issue. Whatever the object of the editor of "What's What" may have been what he has done has, I am sure, been in ignorance. In your paragraph, however, you imply the possi-bility on our part of some knowledge of, or complicity in, this publica-tion, an insinuation which is most offensive and absolutely unwarrant-able. It surely might have occurred to you that men in the position of those whose names are mentioned would not lower themselves to such an extent as to have either directly or indirectly incited such a state-ment or that they had any knowledge of it beforehand. If you can indicate how such occurrences can be avoided or how the matter can be remedied I shall be most grateful to you, but I resent most strongly that you should have in the faintest degree implied that I have any-thing whatever to do with the matter. I am not aware that I have ever done anything which should make you think that that was at all possible. Yours faithfully,

W. WATSON CHEYNE.

THE SUPPLY OF VACCINE LYMPH.

To the Editors of THE LANCET.

SIRS,—The following letter has been sent from the governing body of the Jenner Institute of Preventive Medicine, over which Lord Lister presides, to a correspondent who had written concerning the confusion existing in the public mind from the fact that there are two Jenner Institutes, in one of which—that at Chelsea—the Government lymph supplied gratis to public vaccinators is prepared, while in the other—that at Battersea—vaccination lymph is prepared and sold commercially. The Government lymph, as is generally known, cannot be purchased.

I am, Sirs, yours faithfully,

Feb. 12th, 1902. ALLAN MACFADYEN.

Jenner Institute of Preventive Medicine, Grosvenor-road, Chelsea Gardens, S.W., Feb. 11th, 1902.

SIR,—In reply to your letter I am directed to inform you that no vaccine lymph is prepared at the Jenner Institute of Preventive Medicine under the direction of the governing body of the institute, but that certain laboratories in the institute are leased to the Local Government Board and that the officers of the Board are engaged there in preparing glycerinated lymph for supplying public vaccinators only. The manufacture of calf lymph for sale is also carried on at another institute, the Jenner Institute for Calf Lymph, situated in Battersea, but that institute is in no way connected with the Jenner Institute of Preventive Medicine. I am, &c.,

ALLAN MACFADYEN (Secretary).

THE LAY PRESS ON THE TREATMENT OF CONSUMPTION.

To the Editors of THE LANCET.

SIRS,—There have recently appeared in a journal of the daily press certain articles relating to a treatment of pulmonary tuberculosis by intravenous injection, and stated to be a "cure for consumption," discovered by me. I have discovered no such cure. The suggestion of treatment by such means I put before the profession more than a year ago. It is on its trial and as yet its results do not warrant any authoritative opinion, still less such positive assertions as have been published. I greatly deprecate that, by no fault of mine, the matter should have obtained access to the lay press. I am, Sirs, yours faithfully,

Seymour-street, W., Feb. 5th, 1902. ROBERT MAGUIRE.

CANCER AMONG HINDOOS.

To the Editors of THE LANCET.

SIRS,—As Captain Donovan cannot, or will not, furnish the information as regards the custom of circumcision among the Mahomedans, which Mr. Keetley asked for in THE LANCET of Jan. 18th, I beg to state that the rite is canonically enjoined upon all the followers of Mahomet; all converts also have to be circumcised and as a matter of practice circumcision is more universal among the Indian Mahomedans than is baptism in Christian England. So universal is the custom that in some parts of India the Mahomedans owe their sobriquet "Katro" ("the cut" or "circumcised") to this practice. In fact, in a vulgar brawl a Hindoo will taunt at the Mahomedan as the "cut" one. As your readers will know, the term Mahomedan is not a racial but a denominational designation. The Indian Mahomedans call themselves Mussulmans. The Hindoos either accord them this title or call them variously as "Turiks" (Turks), Naithe (from Inam—corruption, I believe), Moplah, Lubbe, &c., but outside of officialdom the word Mahomedan is seldom heard in the mouth of a native of India.

I may say here that I have seen Captain Donovan's reference to me in THE LANCET of Jan. 4th and I cannot help observing that the time and space spent by him in his attempts at my biography would have been better devoted to a recollection of his cancer cases, so that we might have had a rough total, though, as it would seem, his "case-books" were out of reach just then; but I have no doubt that when he has once returned to his station and is settled down he will have time to look up his case-books and we will then have some definite idea of the number of cancer cases which he has operated upon or otherwise treated during his three years' active surgical work on the Malabar coast. The two provinces he speaks of have a population as large as that of Ireland. The people have little communication with the outside world. There are no railways (at least, there were none when I was there [20 years ago), only a weekly steamer communication between the principal ports, and that only when the monsoons permitted. Besides, though these two provinces form part of the Madras Presidency the natives are by language, race, and manners strangers in the other 30 and odd districts of the Madras Presidency and to the city of Madras itself, where the "General Hospital" is located and to which Captain Donovan tells us all the afflicted from the 40,000,000 go up for operation.

For the reasons I have mentioned these two provinces could not have furnished the Madras General Hospital many patients, as it is at best a four or five days' tedious journey thereto. Besides, Malabar women are absolutely forbidden (I mean the "Nair" women, the caste women) to go beyond the limits of Malabar. Under these circumstances the Madras General Hospital could not have drawn much upon Captain Donovan's own resources, and he must have found his hands quite full during the three years of his active surgical work, especially as few other operating surgeons, I believe, have ever penetrated to Malabar and Canara.

I need not comment here upon Colonel Maitland's letters (as the evidence furnished therein, as Mr. Keetley has shown in his letter in THE LANCET of Jan. 18th, is inconsistent and self-contradictory) further than to say that I am glad to learn therefrom that female patients are now admitted to the Madras General Hospital. It is the only clinical hospital for 40,000,000, and when I looked through the wards in 1889 or 1890 (I am not sure exactly which year) there were no female patients there, and I was told that females are not admitted there—"not one in 10 years, and that the hospital is intended solely for men." Under the new regulation, is it only cancer cases that are so favoured, or are all females? I am, Sirs, yours faithfully,

C. N. SALDANHA.

Percy-road, Ravenscourt-park, W., Jan. 29th, 1902.

PS.—As regards the word Hindoo, it is used in two ways. 1. The more strict and in the sense always used by the natives themselves it comprises the four classes of Brahmins, Shaitrayas, Vaisayas, and Sudras. In other words, it is synonymous with "Casteman." It would be seen from this that the outcasts, variously called "Mars" and "Pariahs," do not come under this category. 2. It is used in a denominational sense. All non-Mahomedan natives are Hindoos. In this sense these outcasts become Hindoos too (but they may not knock at the door of a Hindoo of the first category), as they also worship the Brahmin gods. The religion is called Brahminism or Hindooism and all the followers therefore become Brahminists and Hindoos. This leads to confusion and is responsible for much of the ridiculous statements one sees made by foreigners. For instance, in THE LANCET of Jan. 18th, p. 192, Mr. W. Roger Williams, referring to the North West Provinces, says: "Four-fifths of the inhabitants are Hindoos who, in accordance with the precepts of their religion, never eat meat." Mr. Williams must have read somewhere that Brahmins do not eat meat. Brahmins are Hindoos, therefore all Hindoos may not eat meat. As a matter of fact, Brahmins comprise a very small fraction of the total number of Hindoos. In fact, they are only the priestly class and are in a great minority. All other Hindoos—Rajapoots (the princely class), Vaisayas (the merchants), and Sudras (the cultivators)—do eat meat, but they may not eat beef. Pariahs, of course, are allowed to eat anything, and from Pariahs come domestics, barbers, washermen, &c., of Europeans, for a caste man may neither shave, eat with, cook, nor wash for a European. This rule is very rigidly observed, especially in Madras, where Colonel Maitland and Captain Donovan are serving. Still, I am afraid that Colonel Maitland uses the word Hindoo in the sense No. 2. I used it in the meaning of No. 1.

DYSENTERY IN ASYLUMS.

To the Editors of THE LANCET.

SIRS,—May I be permitted to make a correction in the report in THE LANCET of Feb. 1st, p. 307, of the remarks which I made on Dysentery in Asylums at the meeting of the Epidemiological Society on Jan. 17th? The outbreak at the Leavesden Asylum was not unreported. An account of it will be found in the Medical Supplement to the Annual Report of the Statistical Committee of the Metropolitan Asylums Board for 1899. Though there were several fatal cases, yet in not one was ulceration of the colon found, such

as that described by Dr. F. W. Mott; nor did any of the non-fatal cases present the symptoms of dysentery. On the other hand, some of the cases were undoubtedly enteric fever.

I am, Sirs, yours faithfully,

E. W. GOODALL.

Eastern Hospital, Homerton, N.E., Feb. 4th, 1902.

ADMINISTRATION OF ANÆSTHETICS DURING LABOUR.

To the Editors of THE LANCET.

SIRS,—For the benefit of anyone who, like "M.D." on p. 276 of your issue of Jan. 25th, wishes for the information, I may say that I obtained the box referred to on p. 230 of the same date, which is really a tobacco-box silver-plated and gilt-lined, at Mr. E. Bishop's, 81, Briggate, Leeds, who will be glad to supply one to anyone who may apply to him. I had for some time been trying to get one of the kind made for me, but had failed. The idea of using a box for the purpose was not my own, Mr. Alfred Orchard of Ashby-de-la-Zouch having devised one some time ago; but those I have seen made according to his pattern are devoid of any spring to the lid, which is an essential in order to manipulate with one hand while the other is engaged in attending to the labour.

I am, Sirs, yours faithfully,

Leeds, Feb. 3rd, 1902. CHAS. J. WRIGHT.

THE LIBEL UPON DR. A. J. GREGORY.

To the Editors of THE LANCET.

SIRS,—The libel against Dr. A. John Gregory, published in *Greater Britain*, having been traced to Dr. William Christiaan Scholtz, the matter was brought before the Colonial Medical Council. I inclose a copy of the judgment.

I am, Sirs, yours faithfully,

Pretoria, Jan. 13th, 1902. GEORGE TURNER.

JUDGMENT.

The Colonial Medical Council having held due inquiry on the 20th, 21st, and 27th December, 1901, under Section 13 of the Medical and Pharmacy Act Amendment Act of 1899 into the charge laid before them and brought by Dr. Alfred John Gregory against Dr. William Christiaan Scholtz, after such due inquiry the Colonial Medical Council judges Dr. William Christiaan Scholtz guilty of disgraceful conduct in professional respect, and the Council accordingly recommend to His Excellency the Governor that the name of the said Dr. William Christiaan Scholtz be erased from the Register of Medical Practitioners.

A true extract.

(Signed) WILFRID G. R. MURRAY,
Secretary, Colonial Medical Council.

THE DOSE AND LENGTH OF INCUBATION IN MEASLES AND VACCINATION.

To the Editors of THE LANCET.

SIRS,—As Mr. Kingston Barton has brought the name of the Jenner Institute into his letter I think it right to answer it so far as the institute is concerned. In October the lymph sent out by this establishment undoubtedly became attenuated, but this was through no fault in the preparation or glycerination, as Mr. Barton appears to think. It was one of those "bad times" alluded to by Dr. Chaumier in his letter to the medical press to which all institutions are liable and for which no explanation is at present forthcoming. The lymph, although active on the calf, rapidly became attenuated in keeping; unfortunately, this happened at the time when the demand for revaccination had just commenced and undoubtedly caused very considerable trouble and annoyance, as owing to the fact that the most contradictory reports were received with respect to its action it was extremely difficult to trace the mischief and took some time to do so. However, the institute decided among other things to change its medical superintendent and I was asked to take over the direction. My first step was to destroy all the lymph then in stock and thoroughly to fumigate and to disinfect the stables and stalls. Meanwhile, all the best sources were drawn on for seed lymph to start new strains with, and until the lymph from these cultivations could mature lymph was obtained from a foreign source whence most of that at present sold in England is obtained. (*En passant*, we had many complaints of failures from its use.)

Since the recultivation of Jenner lymph has again been put into circulation there has not been a single complaint, although many thousand tubes have been sent out daily. The Jenner Institute is determined that the lymph it distributes shall be without a reproach of any kind, and with that intent the whole working of the institute has been regulated by experts and approved by one of the Local Government inspectors who recently visited it. After the lymph has been passed by myself it is examined by a pathologist in one of the hospitals, so that it is issued with a formal certificate of purity and, as far as possible, activity. With the exception of the Government establishment this is the only institute in or round London that manufactures its own lymph and which openly invites any members of the profession who may be interested in the process to inspect it for themselves. To show that the lymph is successful I would refer to the letter of Mr. Albert Benthall in your issue of Jan. 18th (p. 195).

I am, Sirs, yours faithfully,

Feb. 5th, 1902. LEONARD C. DOBSON, M.D. Lond.

A DANGEROUS PRINCIPLE.

To the Editors of THE LANCET.

SIRS,—Continuing the correspondence under the above heading, the ordinary reader of your journal would imagine that a letter such as that over my signature in your issue of Jan. 25th (p. 260) would have provoked some response from the president, vice-president, and council of the Royal College of Surgeons in Ireland. Collegiate reticence in such a matter cannot but have a grave significance, and yet when the ordinary medical practitioner realises the immense import in the question involved—the unconstitutional translation of the powers of the electorate in collegiate control through acknowledged violation of the College charters—he can the better understand the present deplorable condition of our great profession. Individual Fellows of the Irish Surgical College surely will never sanction the policy of drift. I would therefore ask the electorate body of the Royal College of Surgeons in Ireland to recollect that its present council violated its charters (by-laws it does not possess, in any completeness) and its Fellowship regulations of examination, and that a Licentiate entering for examination under a specific contract may, so far as the majority of the present corporate body is concerned, suffer loss of time and money without the slightest regard to equity or justice. The next election for council takes place in June.

I am, Sirs, yours faithfully,

Dublin, Feb. 10th, 1902. S. WESLEY WILSON.

THE DECAY OF AUSCULTATION AND THE USE OF THE BINAURAL STETHOSCOPE.

To the Editors of THE LANCET.

SIRS.—I have read with much interest the communication of Dr. H. W. Syers on the above subject. Logically, I think one ought to go much farther back than 20 years. Why make an arbitrary division at this time? 20 years ago I have heard men prefer the ear applied direct to the patient's back or chest, as giving a more certain sound than the wooden stethoscope and, indeed, this may also be true. Doubtless, when Laennec introduced the stethoscope there were men who scoffed at the new instrument. But if the education of the senses be all that is aimed at, why use any instruments of research at all? Why not rely on the careful observation of the days of Hippocrates? Personally, I confess to being a "degenerate" myself, and would use any method of research in order to be sure of a diagnosis, and Dr. Syers has not yet given us any evidence that murmurs have been missed by the binaural stethoscope that have been recognised by the wooden instrument. When we first began to use the binaural, the cry at the hospital was that "we heard murmurs which did not exist," and I am sure that any contemporary of mine could confirm that saying. Does Dr. Syers mean that the Widal test or the search for tubercle bacilli or other bacteriological examinations are merely "crazes"?

As regards the disadvantages of the binaural, such destructive criticism is possible against everything in this imperfect world. For instance, who has not seen the user of the wooden stethoscope have to twist round in most distressing attitudes to listen to a patient's back and to put a finger in his own ear to stop the noise of the piano in the next house?

Again, from the patient's point of view it is much less distress to have the chest-piece of a binaural lightly on one's tender chest than to have a man pressing at the end of a wooden instrument. In this I can speak from experience of the chest end of the stethoscope. I am sorry Dr. Syers's criticisms are so belated; 20 years ago they would have been almost in time to have influenced perhaps a few men to avoid these "new-fangled toys," but, alas, the times move, and the obvious thing to do is to teach students to diagnose with such imperfect instruments as we have nowadays.

I am, Sirs, yours faithfully,

Feb. 10th, 1902. A. CHARPENTIER, M.D. Durh., D.P.H.

SUPERANNUATION OF POOR-LAW OFFICERS.

To the Editors of THE LANCET.

SIRS,—The actuarial report on the Poor Law Superannuation Bill (Ireland) has now been made public. It is based to a considerable extent on assumptions. First, that the salaries of poor-law officials are subject, as a matter of course, to a periodical and substantial increase. The past history of salary increments shows that they are rarely increased, and therefore the claims upon the pension fund would fall much below the sum named by the actuary. Secondly, that poor-law officials do not resign or otherwise cease to hold office, or that they do not die before reaching the pensionable age of 65 years. Probably Dr. Howell had no data upon which to base a reliable report in this respect. They are facts nevertheless, and must have an important bearing on the average payments from the fund. The percentage deductions in the English Act of 1896 embodied in the present Bill were based upon the percentages adopted by large public bodies in England for the superannuation of their officers—e.g., the Corporation of London, the Liverpool Corporation, the North-Western Railway, the North-Eastern railway, the School Boards, the Metropolitan Board of Works, and the London County Council. It was not expected that the fund created by the deductions from income would at first be sufficient to meet all claims. There was, however, reason to believe, from the experience of other similar funds under the management of the public bodies mentioned, that the percentages would be found sufficient more than to cover the proportion of the superannuation fund which Poor-law officers should be asked to bear; more particularly so having regard to the equitable claim already possessed by some of these officers under existing Acts. The actuarial report further states that in the event of the Bill becoming law it was absolutely necessary that the fund should be a national and not a union fund. This would be a most advisable arrangement, inasmuch as Clause 4 of the proposed Bill provides that all service, whether continuous or not, shall be aggregated.

I am, Sirs, yours faithfully,

Irish Medical Association, Feb. 8th, 1902. THOMAS GICK.

FUNERALS IN INCLEMENT WEATHER.

To the Editors of THE LANCET.

SIRS,—In inclement weather might not all the Funeral Service, except the words of committal and the grace, be said in the church or cemetery chapel?

I am, Sirs, yours faithfully,

F. LAWRENCE,
Honorary Secretary, Funeral Reform Association.

Westow Vicarage, York, Feb. 10th, 1902.

PROPOSED WATER BOARD FOR LONDON.

To the Editors of THE LANCET.

SIRS,—The very important remarks contained in the leading article on "The Metropolitan Water-supply," in THE LANCET of Feb. 8th, p. 384, cannot but prove valuable to all concerned. It appears to me, therefore, that now is the time that the present position and condition of the mains and service pipes now used in carrying the water from the various companies' reservoirs to the users (especially in central London) should be seriously considered, because (beyond the question of loss by leakage underground from unsound pipes, joints, valves, connexions, &c.) there cannot be much doubt that if an absolutely pure sterile water should ultimately be turned into the present system of distributing mains and service pipes it would be rendered far more unwholesome and unfit for dietetic use than the worst of the present waters used in the metropolis. Provision should be made for a new system of mains and services for wholesome waters, carried in properly constructed and well-ventilated subways, and thus safe from the filthy surroundings in which all the present mains and services are buried.

Should the new water-supply be separated in the manner I propose not only would an enormous amount of underground loss be saved, but also a very large amount of inconvenience.

I am, Sirs, yours faithfully,

Ebury-street, S.W., Feb. 8th, 1902. D. T. BOSTEL, Sen.

TWO CASES OF SOLID ABDOMINAL TUMOUR WITH ASCITES.

To the Editors of THE LANCET.

SIRS,—Dr. T. W. Eden in his clinical lecture on "Two Cases of Solid Abdominal Tumour with Ascites," published in THE LANCET of Feb. 8th, p. 349, mentions that "an extended search in text-books and monographs and in the transactions of obstetrical societies has only revealed one such case, recorded by Thomas Keith." Dr. Eden possibly has overlooked a case reported by me in the *British Medical Journal*, Dec. 21st, 1900, p. 1773: "Notes on a Case of Profuse Hydroperitoneum complicating Uterine Fibroids."

I am, Sirs, yours faithfully,

A. C. BUTLER-SMYTHE, F.R.C.S. Edin.

Brook-street, W., Feb. 12th, 1902.

DIFFICULTIES UNDER THE INFECTIOUS DISEASES (NOTIFICATION) ACT.

To the Editors of THE LANCET.

SIRS,—Some days ago I, as medical officer of health, received a notification from a medical practitioner notifying that E. R. was suffering from diphtheria. On the form, at foot, was written, "This child is suffering from scarlatina as well as diphtheria, see next form." The next form inclosed with the other was a notification that E. R. was suffering from diphtheria. Would you be good enough to let me know whether the notifier is entitled to two fees? Am I to make a double entry as regards the child? If so, I have apparently two cases, instead of one, ill at the same time.

I am, Sirs, yours faithfully,

Jan. 30th, 1902. H. W.

*** The practitioner notifying is entitled to a fee for each disease notified, albeit the two diseases here in question existed simultaneously in the same individual. Had, say, a month elapsed between the two notifications "H. W." would have had no hesitation as to his line of action, and there is no time-limit laid down by the statutes. Possibly, the present law in this particular may eventually be modified, seeing that the control of the patient is the chief object to be attained by notification; but as the law now stands two fees can be claimed. We assume, of course, that "H. W." has no reason to question the *bonâ fide* nature of the notifications. A double entry should be made and an explanatory note appended. We suppose that the second form was a notification of scarlet fever, and not, as the letter reads, of diphtheria.—ED. L.

LABELS AND LIABILITIES.

To the Editors of THE LANCET.

SIRS,—So far as the law is concerned little doubt can be raised in the matter which you discussed last week under this heading (p. 387). Certain articles are scheduled as poisons and these may only be handed to the public on certain conditions. Moreover, they may only be so handed either by qualified medical practitioners or by chemists registered under the Pharmacy Act. For one set of poisons these conditions are that the person wishing to obtain the drug in question shall be either personally known to the person dispensing the drug or

shall be introduced by some other person so known. In the majority of instances, of course, this introduction is really represented by the presentation of a prescription signed by a qualified medical man. For the other set of poisons, those included under Part II. of the section of the Pharmacy Act in question, the condition is that the purchaser on purchasing the drug shall sign a certain form kept by the vendor. In a section of the "Act to Amend the Pharmacy Act" particular statement is made that all these conditions do *not* apply to poisons supplied by a qualified medical man provided that he complies with one other condition. This other condition justly excited the surprise of your correspondent last week. The attention of the General Medical Council was called to the subject recently owing to the revelation of a state of affairs which was apparently very common in Scotland but which does not probably hold good to a large extent in England. I refer to the practice of maintaining a "doctor's shop" or surgery, as it was often called, from which a man legally qualified neither medically nor as a chemist dispensed all kinds of drugs to the patients of the medical man owning the "shop." Obviously, when the prescription dispensed happened to contain a scheduled poison the dispenser was committing a breach of the law with regard to poisons. Whether he fulfilled the conditions to which I have referred above or not he still committed a breach of the law, because in the eye of the law he was from his unqualified state a man not permitted to dispense drugs scheduled as poisons. The decision of the General Medical Council in the matter is stated in the formal account of the sitting of Saturday, Nov. 30th, 1901, in these words:—

> Whereas it has come to the notice of the Council that medical practitioners who keep medical halls or open shops in which scheduled poisons or preparations containing scheduled poisons were sold to the public have been accustomed to leave in charge of such halls or shops assistants who are not legally qualified to sell scheduled poisons to the public ..... and have thereby enabled such unqualified assistants to sell scheduled poisons and so to commit breaches of the law ..... the Council hereby give notice that any registered medical practitioner who is proved to have so offended is liable to be judged guilty of "infamous conduct in a professional respect," and to have his name erased from the Medical Register.

It seems to me that the Council could have ruled in no other fashion and that, so far, the general practitioner, on whose behalf your correspondent writes, has no cause for complaint in the action of the General Medical Council.

I am, Sirs, yours faithfully,

Feb. 8th. M. D.

To the Editors of THE LANCET.

SIRS,—*Apropos* of the annotation in THE LANCET of Feb. 8th, p. 387, entitled "Labels and Liabilities," it is now a very common custom among medical men to have their names, degrees (whether medical or otherwise), and the hours at which they are "at home" for consultation printed at the top of their prescription slips.

If the law does happen to require exactly the kind of thing to which the General Medical Council would take vigorous objection—viz., that a medical man's name should under certain circumstances be upon the label of the bottle containing his compound—is it more of an advertisement than having his name, qualifications, and hours of consultation upon his prescription slips?

As a matter of fact, the prescription slip will probably be a more advantageous advertisement, as it will pass through more hands. When the patient goes home it will be shown to the relatives and discussed and some popular "Domestic Medicine" will be turned up to see what the various ingredients are being given for. It will then be shown to any neighbours and friends who may have looked in to inquire after the suffering one. Finally it will reach the chemist, who will explain in popular language the uses and actions of the drugs prescribed.

We are so accustomed to these prescription slips that we never regard them as advertisements, but simply think it is convenient for our patients to have a reminder of the most convenient hour at which to consult the busy man, and in their interests we must uncomplainingly bear any reproach which may be laid upon us for what might appear to others not conversant with professional matters to be an advertisement. And, indeed, should a patient be impressed with the skill of the practitioner it is also convenient for him, or her (females are most strongly recommended by the writer for this game), to be able to mention the respective hours when his, or her, physician is "at home," if he, or she, happens to recommend him to a friend, perhaps a dissatisfied patient of another practitioner.

For my own part, I cannot see why a dispensing practitioner should not add his consultation hours to his labels also: keep me right if I go wrong—but there seems little difference. Presumably a dispensing practitioner does not have prescription slips, and it seems, at first sight at all events, unfair that his non-dispensing *confrère* should alone be able to let the general public know his hours "at home." The exigencies of the case might possibly be met, and the General Medical Council not over flurried, by the dispensing practitioner using prescription slips to wrap his medicine bottles up in.

The whole subject is terribly distasteful to

Feb. 10th, 1902. AN UNCOMPLAINING BUSY MAN.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Spread of the Plague.—Increase of the Famine.—The Malaria Convention.—The St. John Ambulance Association in Calcutta.

THE deaths from plague throughout India last week reached the total of 10,368. This is 502 more than in the previous week and compares very unfavourably with the small total of 2839 for the corresponding week of last year. The Bombay Presidency returns 4797 deaths, the Punjab 2662, the Madras Presidency 586, the Bengal Presidency 462, the North-West Provinces and Oudh 685, Mysore State 636, Hyderabad State 50, and Kashmir 192. In the cities the deaths were: Bombay, 234; Calcutta, 36; and Karachi, 70. Poona city is not reported but local reports show that plague is developing rapidly and the deaths there are over 50 a day. The present features of the epidemic are its steady extension in the Madras Presidency, where at this time last year only 25 deaths from plague occurred, and the serious headway which it is making in the Punjab, where three months ago only 90 cases were returned; it is also increasing in Bengal. There is a decided jump in the figures for Calcutta. An outbreak has occurred at Lahore for the first time but active steps are being taken and inoculation is being pushed vigorously. In Jullunder city also an indigenous case has occurred. To compensate for increase elsewhere the disease is declining in virulence in the Bombay districts, although it is developing again in Bombay city.

The famine is again worse and 17,000 people have been added to those receiving relief who now amount to 158,000, the figures being: Bombay and Said, 94,500; Baroda State, 33,000; Bombay Native States, 22,000; and the Punjab, 3000. This has been largely due to the abnormal rainfall; for India generally the average is about 40 inches, but it varies from 10 inches in the North-West Provinces to 100 inches in Assam. The west of India received much less than its normal amount of rain this year, Karachi, Mooltan, Hyderabad, Quetta, and Mount Abu getting only about half their average.

The Malaria Convention at Nagpur has been a great success, not only in attendance, but in the interest of the papers read. The chief of these were on the Classification of Anopheles, by Captain Glen Liston; on the Endemicity of Malaria, by Dr. Christopher, who also contributed a paper on the Prevalence of Anopheles; on the Examination of the Blood, by Captain Rogers; and on the Means of Preventing Malaria, by Captain G. T. Birdwood.

The St. John Ambulance movement seems to be making headway in India. Classes are being held among natives as well as among Europeans in several cities and instruction is being given by civil surgeons to the police. A successful distribution of over 200 certificates recently took place in Calcutta where 13 classes have been already held and amongst them three large classes of Mahomedan students. There seems to be a difficulty in exciting interest among the Hindoos which is apparently due to the influence of caste. There appears to be a general opinion that while classes might be got together it is very doubtful whether the instruction would ever be put in practice. Those who have lived in India will understand the inhibiting influence of caste as much in this matter as in others.

Jan. 18th.

The Plague Epidemic.—Further Increase of the Famine.—Increase of the Indian Medical Service.—Subscriptions for the London School of Tropical Medicine.

IN consequence of the decline of the epidemic of plague in parts of the Bombay Presidency there has been a

reduction this week in the number of deaths throughout India. The figures, however, are still very high, being 9204 for the whole of India—a reduction on the total of the previous week of 1164. In the Bombay Presidency the deaths have fallen from 4797 to 3510, and in the Punjab there has been a slight reduction also—viz., from 2662 to 2379. On the other hand, there has been a further increase in the North-West Provinces and in Bengal, and there is a decided rise in the mortality both in the cities of Bombay and Calcutta. For the latter city there are recorded 50 deaths, against only 22 for a fortnight ago, and rats are reported to be found dead and dying in various parts. In Bombay city there were 250 deaths from plague. There is little doubt therefore that the two chief cities of India are threatened with fresh outbreaks. With reference to the Punjab it is unfortunate to notice that the Tahsils of Nawashahr and Gaishankar in the Jullunder and Hoshiapur districts, which were thoroughly inoculated in 1899–1900, show no less than 5373 cases and 2427 deaths during the last three months. Orders have been issued for the resumption at Simla of the plague precautionary measures that were in force during last summer. Disinfecting gangs are to be re-formed and surveillance over new arrivals is to be re-established by the immediate reopening of the road and medical inspection posts at Kalka, Tara, Devi, and Taur.

India is still oppressed by the famine which is again increasing. The total number of persons receiving relief is now 181,651. The Bombay Presidency is the chief sufferer, but 6430 persons have had to be relieved in Rajputana.

No announcement has yet been made regarding an increase in the cadre of the Indian Medical Service, which is understood to have been under discussion for some years back, but it may be noted that the Secretary of State for India has been asked to admit three more candidates, making 20 in all, to the next examination for the Indian Medical Service.

I understand that Sir Francis Lovell, K.C.M.G., who is visiting India on behalf of the London School of Tropical Medicine, has been very successful in obtaining subscriptions, and that some £10,000 have been already remitted. Bombay has answered the appeal with great warmth but very little has been got from Calcutta.

Jan. 24th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester and Salford Hospital for Diseases of the Skin: the Finsen Light Process.

THE Lord Mayor presided at the annual meeting of the friends of the Manchester and Salford Hospital for Diseases of the Skin on Feb. 4th. Among the 33,356 attendances of patients 6633 were for the "light" treatment. Many came from neighbouring towns and a few serious cases were treated as in-patients. It is satisfactory to learn that in consequence of inquiries as to the position and means of patients "there had been a considerable falling off in the attendance of unsuitable persons as patients." The committee reported a great need for an increase of beds, at least 20 or 25 being required. The medical report made special reference to the treatment of lupus, for which primarily the Finsen light and Roentgen ray department was started last year. The cases now being treated include not only lupus and the other tuberculous affections, but also forms of cancerous and rebellious ulceration. The report states that though it is too early to judge of the final results, the improvement in cases hitherto rebellious to all treatment has been so encouraging that thorough and permanent cure may be hoped for. Being almost painless the patients now coöperate in the treatment as they never have done before. Dr. H. A. G. Brooke hoped that they would soon have apparatus which would expedite the Finsen process and Dr. R. B. Wild stated that very promising results had been obtained by the Roentgen rays "in cases that were practically forms of cancer." Dr. J. Dreschfeld, in moving a vote of thanks to the chairman, said that there was no large town with so little accommodation for skin diseases. There was an immediate demand for 20 beds, and he thought that 50 should be provided.

School Ventilation and Lamp Accidents.

The committee of the Manchester and Salford Sanitary Association has been in communication with the Education Department as regards the ventilation of schools and, on the invitation of Sir John Gorst, has submitted the draft of a circular for issue to managers and inspectors of schools. In addition to suggestions as to the ventilation of the schools the circular recommends that instruction should be given to the children on the value of ventilation both at school and in their homes, and that the ventilation should be examined when there is much "school illness" in the classes. At the last meeting of the committee a report was received from Mr. W. Thomson, analytical chemist, on nine lamp explosions investigated between November, 1900, and the end of December, 1901. Seven out of the nine lamps were of a dangerous type. The flash-points of the four samples of oil tested lay between 83° and 90° F. Since these investigations were commenced in 1896 up to the present, "no sample of oil having a flash-point at or above 100° F. had been found to be used in a lamp which exploded."

Ventilation of Manchester Sewers.

In April, 1901, the Paving, Sewering, and Highways Committee of the Manchester City Council, in consequence of several accidents, asked for, and has been furnished with, a comprehensive and detailed report on sewer ventilation. The city surveyor recommended systematic ventilation, consisting of upcast shafts in suitable positions with surface ventilators as inlets for fresh air. He also recommended that the plant used for treating manufacturers' refuse should be open to official inspection at any time, and that where such refuse contained chemicals which would become of an explosive or dangerous character on entering the sewers they should be rigorously excluded. As there are 1700 miles of sewers the committee, of which Dr. Dearden is chairman, at its last meeting appointed a sub-committee of eight to go into the whole matter.

"Methods of Barbarism."

An inquest held yesterday by the City Coroner on the case of a woman in Gorton who died from acute pneumonia throws some light on the methods of agents of cottage property in dealing with those who are behind with their rent. This poor woman, who was tuberculous, took to her bed on Feb. 1st, and remained there till the 4th when the chimney was blocked up by order of the landlord's agent. No fire could be kept in the house, but she stayed there till her death on the 8th. It can be imagined what discomfort and misery this proceeding would cause during the unusually severe weather experienced in this district, and how it would render her poor chance of recovery almost hopeless. No medical man was called in, because the man with whom the woman had lived for three years had no money, and "didn't think" of calling in the parish medical officer. The post-mortem examination showed extensive tubercle in both lungs and pneumonia of the left lung, and in face of this the coroner did not think the jury could bring in a verdict of manslaughter, but he characterised the proceedings of the agent as "most brutal." The verdict was "in accordance with the medical evidence," and the jury thought that the agent, the "property repairer," and the paramour should be censured, "the latter for not calling in a doctor." Such occurrences as the above should induce those who seem to look only abroad for methods of barbarism to consider whether our processes for the recovery of rent may not be open to improvement.

Arsenical Beer Poisoning.

The dire effects of arsenical beer have not entirely ceased. A middle-aged man was admitted on Jan. 15th to hospital at Halifax suffering from arsenical beer poisoning. His illness ended fatally, and at the inquest held on Feb. 8th a verdict was returned of "Death from pneumonia, accelerated by arsenical poisoning."

Testing for Arsenic.

At the meeting of the Manchester section of the Society of Chemical Industry, held on Feb. 8th, Dr. Gerland explained his process for the estimation of minute quantities of arsenic in beer. A solution of bismuth is first added to the beer, and is then precipitated by means of sulphuretted hydrogen. The arsenic is carried down with the precipitate, and is then dissolved out by means of carbonate of ammonia. The solution of bismuth must, of course, be free from arsenic. The separated arsenic is then estimated in the Marsh apparatus. The chairman, Dr. Grossman, said that the Manchester committee appointed to investigate the question of arsenic in beer had done nothing.

Feb. 11th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Death of Dr. Robert Peel Ritchie of Edinburgh.

BY the death of Dr. R. P. Ritchie on Feb. 10th Edinburgh has lost another of her prominent practitioners. Dr. Ritchie received his medical education in Edinburgh and became a graduate of the University of Edinburgh in 1856. In his early years he had some experience of asylum practice at Bethnall House Asylum, London, but he soon returned to his native city where he spent the rest of his professional life. He was a Fellow of the Royal College of Physicians of Edinburgh and was for a number of years the honorary treasurer of the College, in which capacity he displayed distinct financial ability. At a later date he occupied the post of President for two years, in which position he never failed to uphold the dignity and the interests of his College and of his profession. He thereafter held the post of Vice-President of the College with a seat on the council, and he was ever assiduous in his attention to all matters which came before that body. He held the office of physician to the Royal Hospital for Sick Children, and after his term of office in that capacity had expired he was elected a consulting physician to that institution, a position which he occupied until his death. Dr. Ritchie was a Conservative and an adherent to the Established Church and he was warmly interested in civic affairs. Although he was never a member of the town council he took a keen interest in supporting the candidate for his own ward whom he thought best qualified to do the work of the city He was a member of the parish council and took a prominent part in the deliberations of that body. Dr. Ritchie did not contribute to any extent to the literature of his profession, but his name will ever be associated with the History of his own College which he published some years ago and which included a history of early medical practice and medical teaching in Edinburgh. On the ethical and moral side he was always an upright, straightforward, and honourable gentleman, with no tendency to devious courses or underground workings. Dr. Ritchie's wife died some years ago, but he is survived by two sons, one of whom is in the navy and the other is a member of the medical profession; he is at present one of the resident physicians in the Edinburgh Royal Infirmary.

Nurses' Entertainment in Edinburgh.

On the evening of Feb. 10th the Lord Provost and magistrates of Edinburgh gave a reception, followed by a dance, to the nurses of the City Hospital. Invitations had also been issued to nurses of the Royal Infirmary, of the Royal Hospital for Sick Children, and of other institutions in Edinburgh and its vicinity, some invitations being extended even to Glasgow. The entertainment was held in the Music Hall and Assembly Rooms. Fully 400 nurses were present, as well as a large number of other guests. In the absence of the Lord Provost Bailie Brown welcomed the nurses and explained that a similar entertainment had been planned for last year, but could not be held owing to Queen Victoria's death.

Victoria Hospital for Consumption, Edinburgh.

A considerable enlargement of the Victoria Hospital for Consumption, Craigleith, has been arranged and will probably be carried through in the course of the present year. Mr. William Younger, M.P., has intimated his intention of subscribing a sufficient sum to build an annexe to the hospital capable of accommodating eight patients, and the committee of management contemplates the erection of two additional annexes, each capable of accommodating 12 patients. The total accommodation will thus be doubled and the hospital will be enabled to undertake a proportionately larger amount of the incalculably useful work which it is doing at present.

Aberdeen Royal Infirmary.

The report of the Aberdeen Royal Infirmary for the past year shows that the total income was £11,224 and that the expenditure was £10,968. On most of the items of income a decrease is shown. The small sum charged against interest explains the saving in the amount expended. Lord Mount Stephen's generous gift of £25,000 removed the debt which had weighed so heavily on the institution since its enlargement. The average daily number of patients was 205·2. The annual cost per occupied bed was £49 13*s.* 2*d.*—a decrease of £1 0*s.* 7*d.* Four beds have been endowed during the past year. The only change in the medical staff to be recorded is the resignation of Mr. John Cromar, one of the dental surgeons, and the appointment of Dr. J. Crombie to the sole charge of the dental department. A special department for the study of diseases of the skin has been formed and is under the guidance of Dr. John F. Christie. Mr. John B. Findlay has been appointed clerk and treasurer.

Aberdeen Convalescent Hospital.

The annual report of the Aberdeen Convalescent Hospital shows that the income was £497 and the expenditure £553, leaving a deficiency of £56, attributable to a falling away in the amount of legacies received. The average daily number of patients resident was 14·7, as against 15·8 in 1900. The average stay of each patient was 21·4 days.

Aberdeen Royal Lunatic Asylum.

The report of the Aberdeen Royal Lunatic Asylum has been issued. It shows that the number of patients continues to increase, there being 929 at the close of 1901, as against 887 in 1900. The income for the year was £33,640, and the expenditure was £30,939, leaving a balance of £2701. The surplus was disposed of as follows:—£2000 to meet depreciation and £701 towards the cost of the reconstruction scheme. The directors are of opinion that the reconstruction of the main asylum should not yet be undertaken.

Feb. 11th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox in Dublin.

A CASE of small-pox was discovered in Dublin on Feb. 10th, the patient being a young man who had come from Glasgow in search of work. Feeling ill he called at the dispensary in Grand Canal-street. The medical officer there diagnosed small-pox and communicated with the public health authorities who had the patient removed at once to Cork-street Fever Hospital. The chairman of the Public Health Committee of the Corporation (Sir Thomas Pile) on being informed of the matter wrote to the hospital suggesting that the patient should be removed to the convalescent home at Finglas. The inmates of that suburban and isolated institution were at once cleared out and the case of small-pox was placed under treatment there. At the last meeting of the Public Health Committee, which was held on Jan. 23rd, a report was presented in reference to the possible appearance of small-pox in Dublin and the hospital accommodation available. It appeared that the Pigeon House site could not be utilised on account of the extensive operations of the corporation in connexion with the new electrical installation for the lighting of the city. It was decided, therefore, that the board of Cork-street Fever Hospital should be approached on the subject; although that seemed a doubtful project, inasmuch as it was well known that on the last occasion when during an epidemic small-pox patients were received there the inhabitants of that crowded neighbourhood suffered more severely from the disease than did those of any other area of Dublin. Some alarm is felt in Dublin, for it is natural to suppose that some of the other 25 lodgers in the crowded house in Townsend-street whence the patient came may by this time have contracted the infection; in fact, the evening papers of Feb. 11th state that one other doubtful case from that place has already been removed to the Finglas establishment.

Ulster Medical Society.

At the meeting of the Ulster Medical Society, held in the Belfast Museum on Feb. 6th, the President, Professor W. Whitla, showed a case of Enlargement of the Spleen, and Dr. W. B. McQuitty showed a case of Aortic Stenosis. Dr. J. S. Darling (Lurgan) read a paper on "Epidemic Diarrhœa," and Dr. R. J. Johnstone described the bacteriology of some of the cases, and Dr. John Campbell read a paper on "Some Forms of Puerperal Sepsis." Interesting discussions followed the reading of these papers.

The Royal University of Ireland.

At a meeting of the Senate, held in Dublin on Feb. 7th, the following examiners were appointed for the year 1902:

In medicine, Dr. James A. Lindsay (Belfast) and Dr. J. F. O'Carroll (Dublin); in ophthalmology, Dr. A. W. Sandford (Cork) and Dr. Louis Werner (Dublin); in midwifery, Dr. John W. Byers (Belfast) and Dr. A. J. Smith (Dublin); in medical jurisprudence, Dr. Charles Y. Pearson (Cork) and Mr. Antony Roche (Dublin); in materia medica, Dr. Martin Dempsey (Dublin) and Professor W. Whitla (Belfast); in physiology, Dr. W. H. Thompson (Belfast); in pathology, Dr. E. J. McWeeney (Dublin) and Dr. J. Lorrain Smith (Belfast); and in sanitary science, Sir C. A. Cameron (Dublin). It was agreed to postpone the question of appointing extern examiners until the May meeting.

The University Question.

On Feb. 9th the Lenten pastoral of his Eminence Cardinal Logue (the head of the Irish Catholic Church) was read in the Catholic churches in Armagh. Referring to the questions of a Catholic University and of temperance the Cardinal said that if the Catholics of Ireland were to bind themselves together, even for one year, and to enter into a "solemn covenant" to dispense with drink and to pay into a common fund what is usually expended on it, the amount would establish and endow a university which would be the admiration of Europe.

Feb. 11th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Preventive Inoculations of Anti-diphtheritic Serum.

AT the meeting of the Academy of Medicine held on Jan. 28th M. Netter gave some extremely interesting statistics about inoculations of Roux's serum which were given at the Trousseau Hospital not for the object of treating diphtheria but as a preventive. When first the serum began to be used in this manner certain medical men took great exception to the practice. They said that it simply gave diphtheria to those who had none, and sundry unfortunate sequelæ of the use of the imperfect serum of the early period were collected together and exploited by the enemies of serotherapy. Then it was said that the inoculations did no good. The answer to this was that too small a dose was given. As a matter of fact at least five cubic centimetres of serum—i.e., 1000 units—must be given. Sometimes, too, the injection was not given early enough or infection took place before immunisation was well established. To-day, however, the value of the practice is proved and M. Netter has never found preventive inoculations given to children in danger of diphtheria to cause any unpleasant complications. Moreover, a study of comparative statistics enables a calculation to be made of the number of children who would have fallen victims to diphtheria had the preventive action of the serum not intervened. It is possible to foresee the time when inoculation against diphtheria will be practised in schools just as regularly as vaccination is against small-pox. Unfortunately, the duration of the period of immunity obtained by anti-diphtheritic inoculation is far from being as long as that obtained by vaccination. At the Trousseau Hospital M. Netter inoculated 502 children belonging to 200 families with anti-diphtheritic serum. From every family a previous case of diphtheria had been sent to hospital. The average dose of serum was 10 cubic centimetres, and not only did it not give rise to unpleasant sequelæ but it appeared to be remarkably efficacious. Only 13 children were attacked by diphtheria, seven within 24 hours and six after one month. No case occurred between the second and the twenty-eighth day. Bacteriological examinations were made of the throats of 476 children and Löffler's bacillus was found in 150 instances. The utility of these preventive injections is strikingly shown by a comparison with the cases of 491 children not immunised coming from families a member of which had also been sent to hospital with diphtheria. Among these 86 cases occurred, as against 13 in the inoculated. None of the 13 cases was fatal or even severe, while among the 86 cases 18 were fatal and 39 severe. This method, therefore, would appear to give efficacious protection against the spread of diphtheria in families.

The Separation of Radica and Doodica.

The xiphopagous "phenomenon" which has been exhibited this winter in Paris at Barnum's Show under the names of "Radica and Doodica" was surgically divided on Feb. 9th in Dr. Doyen's clinic. The health of the two children has been in an unsatisfactory state for some time past and owing to climatic conditions to which they were not adapted they have lost flesh. Radica, indeed, is obviously suffering from tuberculous peritonitis. Mrs. Coolman, who looked after the children, took them to the Trousseau Hospital, where they were tended with great care in order to get them into a proper state of health for the operation of separation. Professor Kirmisson, who has recently been elected to the chair of infantile surgery, had been chosen to perform the operation by Dr. Guinon, under whose care the children were. All of a sudden, however, Mrs. Coolman took the children out of the hospital and transferred them to Dr. Doyen's clinic. This course of action gave rise to many attacks upon Dr. Doyen in the political journals which are friendly to Professor Kirmisson. It must be remembered, however, that Mrs. Coolman had every right to choose the surgeon whom she preferred and that there is no proof that undue influence was brought to bear upon her by the friends of Dr. Doyen. Certainly, the operation is a grand advertisement for Dr. Doyen, for the daily press has made much of it and Dr. Doyen has not refused to be interviewed. Kinematograph films of the operation were taken. It lasted scarcely 20 minutes and was completely successful. The fleshy band uniting the two sisters was 10 centimetres wide by four centimetres thick. Beneath the skin was some cartilage. The peritoneum lined the interior of the band, which also contained, as was expected, some liver tissue. Vascular communication between the two children had been previously ascertained by giving some methylene blue to one of them which appeared in 10 minutes' time in the urine of the other, when it was drawn off by a catheter. In all similar operations previously performed on this class of monster the difficulty has been to arrest the hæmorrhage from the divided liver tissue. In the present instance, however, this difficulty was effectually met by the application of Dr. Doyen's angiotribe, by which the tissues were compressed until they were no thicker than a sheet of paper and were completely bloodless. They were then ligatured with two catgut ligatures. The peritoneal cavity of Radica, which was tuberculous, was freely washed out and a drain was left in the abdominal wound. The same course was followed in the case of Doodica. The immediate results of the operation were excellent, although the general health of the patients gives rise to fear for the future. However, at the moment of writing, the latest news, which I have personally obtained from Dr. Doyen's clinic, is very good.

Feb. 11th.

Obituary.

EDMUND GWYNN, M.D. ST. AND., M.R.C.S. ENG.

WE have to record with deep regret, which is shared by all who knew him, the very sudden death, at the age of 61 years, of Dr. Edmund Gwynn, late medical officer of health of Hampstead. The sad event occurred during a holiday trip in Egypt on Jan. 27th last while travelling up the Nile on a steamer. The cause of death was syncope, and although it now appears that he had premonitions of cardiac weakness he had not mentioned the matter to his family, upon whom the blow fell quite unexpectedly. Dr. Gwynn held the office of medical officer of health of the parish, and latterly of the Borough, of Hampstead for a period of 22 years, resigning his position only last year. During part of his tenure of the post of medical officer of health he also practised in Hampstead, retiring from practice in 1895, and thus for the last six years he was able to give his undivided attention to matters connected with public health.

Dr. Gwynn's work as medical officer of health was appreciated beyond his own borough, his reports were lucid and suggestive, and he was justly proud of the sanitary progress of his district during his term of office as shown by the decline in the death-rate which compared most favourably with that of other communities. He was especially active in suppressing the outbreak of small-pox which visited Hampstead about 18 years ago. His reputation as a health officer was recognised by his election as president of the Society of Medical Officers of Health, in which capacity he justified in every way the good opinion of his colleagues, proving an excellent president. He gave

a notable presidential address and showed a decided literary bent, and at the close of his term of office as president he was elected vice-president and treasurer of this society. It was while president of the Society of Medical Officers of Health that he read a valuable paper on Shakespeare and Sanitation at the Stratford-on-Avon meeting; another contribution, also on a public health question, was the Jerry Builder in Relation to the Dwellings of the Poor. Dr. Gwynn was also unanimously elected president of the Hampstead Medical Society two years ago and was president at the time of his death, and in that office he displayed not only intelligent interest in the proceedings but much courtesy and kindly consideration towards the members of the society. It is pleasant to record that his medical colleagues in Hampstead showed their appreciation of the good relations which had existed for so long between their medical officer of health and themselves by presenting him in July last with some plate and an illuminated address expressing their goodwill and esteem, and we have reason to believe that this presentation and the kind words accompanying it were greatly valued by him. Dr. Gwynn leaves a widow and daughters to mourn their loss and they have the sympathy of the whole community.

He had two sons, and here is a sad episode in his life. They both died while on the threshold of manhood and full of promise about six or seven years ago and within a year of each other. One of them was destined for the medical profession. Such a double misfortune might well arrest the energies of a strong man, but the subject of this notice, grieving always but never repining, continued to toil on till his work was accomplished.

WALTER WYKESMITH, L.R.C.P. EDIN., L.M., M.R.C.S. ENG., F.R.C.S. EDIN.

MR. W. WYKESMITH, who died on Feb. 3rd at Poole, in Dorsetshire, received his medical education at King's College, London, and also in Paris. For many years he was in practice at Wimborne, but his health failing he retired from active medical work last year and went to reside at Poole. To him Wimborne is mainly indebted for its efficient water-supply, the Wimborne Water Company owing its inception to Mr. Wykesmith's interest and energy. He was a member of the governing body of Wimborne Minster and was a staunch Churchman. He also took a very active interest in Freemasonry. He joined the St. Cuthberga Lodge in 1873 and received provincial rank as assistant director of ceremonies in 1881. He also received the rank of provincial junior warden in the Mark degree. Mr. Wykesmith, who was approaching his sixtieth year, leaves a daughter and three sons to mourn their loss. His wife died in December last.

WILLIAM MARTINDALE, F.C.S., F.L.S.

PHARMACY has sustained a great loss in the death of Mr. William Martindale which took place suddenly at his town residence on Feb. 2nd. He was well known to most medical men as an authority on pharmaceutical affairs, he being joint author with Dr. W. Wynn Westcott of the invaluable little book known as "The Extra Pharmacopœia." How far this book has been appreciated may be gathered from the fact that since the first issue in 1883 no less than 10 editions have been published. The first edition was sold out within a fortnight of its issue and the second edition, thoroughly revised, appeared within a few months of the issue of the first edition. Mr. Martindale devoted a good deal of his time to the improvement of pharmaceutical preparations. He knew the difficulties of pharmaceutical study in all its branches. Indeed, his practical knowledge not only of pharmacy but of the relationship of pharmacy to medicine and to the qualifications of pharmacists and of the laws of the country governing their conduct made him an excellent president of the Pharmaceutical Society. He also had occupied the position of president of the British Pharmaceutical Conference. Quite recently he had been devoting much time and study to the important legislative questions now being considered by the Poisons Committee of the Privy Council. It is to be regretted that this committee has no longer the advantage of the admittedly valuable services of Mr. William Martindale who served upon it as the direct representative of the pharmaceutical profession.

Medical News.

UNIVERSITY OF LONDON.—At the Intermediate Examination in Medicine, held in January, the following candidates were successful:—

Entire Examination.

First Division. Athelstan Jasper Blaxland, University College; and R. H. C. Gompertz, B.Sc., and Eardley Lancelot Holland, King's College.

Second Division.—Henry Catling and Frank Bell Dalgliesh, St. Thomas's Hospital; Delia Davies, London (Royal Free Hospital) School of Medicine for Women; James Ernest Dunbar, London Hospital; Richard Felton, Guy's Hospital; Wilbert Goodchild, University and Royal College of Surgeons, Edinburgh; Cecil Hugh M. Hughes, Westminster Hospital and King's College; Frank Percival Hughes and David Isaacs, Guy's Hospital; Charles Herbert Farley Johnston, Charing-cross Hospital; Thomas Henry Jones, King's College; William Neave Kingsbury, Middlesex Hospital; George Laurence, University College, Liverpool; James Littleton Lawry, London Hospital; Arnold Leeming, Guy's Hospital; Frederick Champ McCombie, King's College; John Borland McVail, London Hospital; Sidney Horace Matson, St. George's Hospital; William Norman May, Guy's Hospital; Reginald Henry Miller, St. Mary's Hospital; John McFarlane William Pollard, Guy's Hospital; Thomas Pratt, University College, Bristol; Philip Meredith Roberts, University College; Alfred Martin Roome, Guy's Hospital; William Mackenzie Sadler, University College; Joseph Ludvig Schilling, Yorkshire College; Gerald Herbert Shortridge, University College, Cardiff, and St. Mary's Hospital; George Alick Soltau and Leonard Warren, London Hospital; and Samuel Zobel, University College.

Excluding Physiology.

First Division.—Frederick William Higgs, St. George's Hospital; Alexander John Malcolm, St. Mary's Hospital; and Clifford Sidney White, University College.

Second Division.—Charles Harold Berry, University College; Frederick Michael Bishop and Arthur Carnarvon Brown, St. Bartholomew's Hospital; John Jones, Owens College; Sydney Wood Milner, St. Bartholomew's Hospital; Harold Frederick Whittall, University College; and Lorton Alexander Wilson, Owens College.

Physiology only.

First Division.—Arthur Douglas Hunt, Yorkshire College and University College, Liverpool.

Second Division.—Lacey Bathurst, St. Thomas's Hospital; Leonard Hubert Henry Boys, Middlesex Hospital; Charles Noël Davis, St. Bartholomew's Hospital; William James Edgar, St. Thomas's Hospital; Harry Farncombe, University College; Florence Erin Gabb, London (Royal Free Hospital) School of Medicine for Women; Eric Crichton Hood, Yorkshire College; Henry Arthur Kellond-Knight, St. Bartholomew's Hospital; John Tryweryn Lloyd and Daniel Joseph Mulholland, University College, Liverpool; Evan Williams Parry, St. Thomas's Hospital; John Mackay Plews, St. Bartholomew's Hospital; Thomas Phare Puddicombe, St. Thomas's Hospital; Samuel Henry Sweet, University College, Cardiff; Barbara Tchaykovsky, B.Sc., London (Royal Free Hospital) School of Medicine for Women and Bedford College; Louis Leopold Arthur W. Thomson, St. Mary's Hospital; and Francis Henry Whitehead, St. Thomas's Hospital.

N.B.—The foregoing list, published for the convenience of candidates, is provisional only, and is not final until the reports of the examiners shall have been confirmed by the Senate.

ROYAL COLLEGE OF PHYSICIANS AND ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following candidates have passed the examination for the Conjoint Diploma in Public Health:—

Thomas Hennessy, F.R.C.S. Irel.; John O'Donoghue, F.R.C.S. Irel.; and D. M. Saunders, Major, R.A.M.C.

UNFOUNDED CHARGE AGAINST A WORKHOUSE MEDICAL OFFICER.—At a recent meeting of a committee of the Liverpool Board of Guardians one of the members stated that a middle-aged pedlar, named Richard Williams, had made a complaint to the effect that when he applied for medical advice at the workhouse surgery the medical officer without saying anything threw him on the floor, forcibly administered chloroform, and slapped him several times on the face, when he recovered consciousness. The medical officer's report, which was then submitted, stated that Williams was a well-known malingerer whose practice was to drop to the ground at the workhouse gates and to be carried into the house apparently exhausted and dying. On the day of the incidents complained of he gained admission by the usual tactics. When seen by the medical officer he was trembling violently and was apparently in a state of collapse. The ordinary treatment for malingering was then adopted—namely, ammonia on a chloroform mask applied to the face, and a few minutes later he walked out of the workhouse. Williams had been subjected to the same treatment only three weeks previously, and on this occasion also he quickly walked out perfectly well. The committee was unanimously of opinion that the man had no ground of complaint.

FREEMASONRY.—*The Rahere Lodge, No. 2546.*—An ordinary meeting of this Lodge was held at Frascati's Restaurant, W., on Feb. 11th, Bro. P. S. Abraham, M.D., W.M., in the chair. Bro. Walton R. Read was admitted to the third degree. Bros. Harke, Yetts, and Dunn were admitted to the second degree and W. Bro. F. T. Vaisey was elected a joining member. Most of the Worshipful Masters of the other medical lodges in London attended the meeting as honorary members of the Rahere Lodge. A sum of two guineas was voted from the Lodge funds to the Soldiers' and Sailors' Families Association.

UNIVERSITY COLLEGE (BRISTOL) COLSTON SOCIETY.—The annual dinner of this society was held on Feb. 5th at University College, Bristol, under the presidency of Mr. P. J. Worsley, in the absence through illness of Sir F. Wills. Amongst the company were the Bishop of Bristol, the Bishop of Hereford, the Lord Mayor of Bristol, and Mr. R. B. Haldane, K.C., M.P. During the evening £400 were collected for the society, and it was announced that two munificent offers had been made by Sir W. H. Wills and Sir F. Wills of £1000 each to University College, Bristol, conditional on three other equal amounts being forthcoming.

A LONG HOSPITAL RECORD.—It is seldom that so long a period of 75 years of service on a hospital staff can be recorded in one family. On Jan. 29th, 1902, Mr. Andrew Boutflower completed 31 years' service as honorary surgeon to the Salford Royal Hospital, immediately following a period of 44 years' service performed in the same capacity by his father, the late Mr. John Boutflower. As a memento of this occasion Mr. Boutflower's colleagues at the Salford Royal Hospital presented him on Jan. 29th with an early English silver salver engraved with the family crest and suitably inscribed.

CHINESE MEDICAL MISSIONS.—At the Torquay Museum, on Feb. 5th, Mr. A. T. Kember, F.R.C.S. Edin., of the Church Missionary Society, gave an interesting lecture on medical work in China. Mr. Kember is attached to the Hangchow Hospital, which contains 200 beds and admits about 1000 in-patients annually, 30,000 out-patients being treated in the 12 months. He alluded to the opium habit in China, and said that in some districts 80 per cent. of the men were opium-smokers and 20 per cent. were "opiumsots," while 20 per cent. of the women were also addicted to the habit.

UNIVERSITY OF CAMBRIDGE.—Professor Bradbury, Dr. D. MacAlister, Professor Woodhead, and Professor S. Delépine of Manchester have been appointed examiners in pharmacology and general pathology for the examination in June, 1902. Schedules for the examination have been issued by the Medical Board.—Professor J. Reynolds Green, Sc.D., F.R.S., has been elected to a Fellowship at Downing College.—Dr. D. MacAlister has been appointed an elector to the Downing Professorship of Medicine; Dr. A. Hill an elector to the Professorship of Anatomy; Professor McKendrick an elector to the Professorship of Physiology; Professor Chiene an elector to the Professorship of Surgery; and Lord Lister an elector to the Professorship of Pathology.

THE ROYAL INSTITUTION.—An animal recently discovered in Central Africa, and known as the okapi, formed the subject of the Friday evening discourse delivered at the Royal Institution by Professor Ray Lankester on Feb. 7th. A stuffed specimen is on view in a glass case in the Natural History Museum at South Kensington. It has been described as a giraffe-like animal, but as regards external conformation the resemblance is by no means close. The body and neck of the specimen are quite free from mottling of any kind and are of a pleasing extremely dark-brown colour. The fore-legs and the hind-legs are nearly of the same length. The fore-legs, the hind-legs, and the haunches are marked with horizontal stripes like those of a zebra. In height it seems to be about four feet nine inches, measured over the wither or highest part of the spine above the shoulder; it is therefore of about the same height as a horse of between 14 and 15 hands. It has somewhat large ears, bifid hoofs, and no horns; its neck is like that of a horse much more than that of a giraffe; its coat is smooth, short, and bright. The specimen would easily stand under the belly of a large giraffe which is beside it. Professor Lankester said that Sir Harry Johnston found portions of its skin in the possession of dwarfs who inhabited the Semliki forest to the west of Victoria Lake and who eventually obtained for him a skin and two skulls. The skull showed a swelling above the eye, where it was probable that the horn would grow if there was one, but this was not the place where the horn grew in the antelope and giraffe. Evidence of the affinity of the okapi and the giraffe was to be found in the fact that they were the only known animals in which the canine teeth in the lower jaw were bifoliate. The helladotherium, remains of which had been found in Greece, was probably related to the okapi.

PRESENTATION.—Mr. Rutherford Harris of Newport (Mon.) was on Feb. 3rd presented by the Conservatives of the Monmouth boroughs with a silver service, weighing 2000 ounces, and an address testifying to the friendship and esteem of his supporters at the last election in Newport, Monmouth, and Usk. The presentation was made by Lord Tredegar.

LITERARY INTELLIGENCE.—Messrs. D. C. Heath and Co. have in the press for early issue a book entitled "Introduction to the Study of the Dependent, Defective, and Delinquent Classes and of their Social Treatment." The author is Dr. Henderson, Professor of Sociology at Chicago University.—Messrs. P. S. King and Son, of Orchard House, Westminster, have in the press for publication early in March a practical guide for the use of the inspector of nuisances by Mr. H. Lemmoin-Cannon.

THE LATE DR. T. LEWIS.—Dr. Thomas Lewis, consulting physician to the Carmarthenshire Infirmary, died at his residence in Spilman-street, Carmarthen, on Feb. 7th, in his eighty-eighth year. He took the diploma of M.R.C.S. Eng. in 1838 and graduated at London University as M.B. in 1839 and as M.D. in 1859. The deceased had long practised in Carmarthen, where he was much respected, but he had retired from professional work some years ago. Dr. Lewis leaves a widow and six children, two of his sons being members of the medical profession.

CLIFTON DISPENSARY.—The eighty-ninth annual meeting of the subscribers to the Clifton Dispensary was held on Feb. 4th, under the presidency of the Rev. R. W. Southby. The medical report stated that 3465 patients (including 73 midwifery cases) had been treated during 1901, against 3668 in 1900. The financial statement showed that the income amounted to £637 and a favourable balance of £196 remained at the end of the year. The chairman alluded in terms of regret to the resignation of Dr. J. G. Swayne, the honorary consulting accoucheur, who had been for upwards of 40 years connected with the institution.

"KNOWLEDGE" AND MICROSCOPICAL WORK.—The editor of *Knowledge*, with the object of making the microscopical section of his journal more extensively serviceable to microscopists, has commenced with the January issue a series of notes dealing with the collection, preparation, and mounting of various objects, and in order to render these thoroughly practical material will from time to time be offered to readers to enable them to follow the instructions given. The first notes dealt with foraminifera and cleaned and uncleaned material is now ready.

GIFTS TO HOSPITALS.—The Liverpool Hospital for Cancer and Diseases of the Skin has received from Sir Thomas Brocklebank a donation of £1000. This sum, it is felt, will justify the board in carrying out some improvements long considered to be necessary.—At a recent meeting of the management committee of the General Hospital, Birmingham, a letter was read from Sir John C. Holder, Bart., expressing his satisfaction that the committee had determined to erect a laundry for the hospital upon land at Erdington, near the Jaffray Suburban Hospital. He believed it would be a great saving to the institution, and he should have great pleasure, subject to the estimates meeting with his approval, in himself defraying the cost of the building and its equipment.

THE AFTER CARE ASSOCIATION held its annual meeting at Lambeth Palace on Feb. 8th, when the Archbishop of Canterbury presided. The chief objects of this association are to facilitate the re-admission of poor persons discharged recovered from lunatic asylums into social life—(1) by obtaining for them when needful an interval of change of scene and air often so beneficial on recovery from ordinary sickness; (2) by giving them grants of money and clothing; and (3) by assisting them to obtain suitable employment.

This association undoubtedly does very useful work, but, like many other charities, is sadly crippled in its work from want of funds. It was stated at the meeting that the number of patients discharged from all the lunatic asylums of the country was about 7000 a year, and of this number but very few were provided for by their friends.

PLYMOUTH DENTAL HOSPITAL. The annual meeting of the subscribers of this institution was held on Feb. 5th, under the presidency of Mr. J. Elliot Square, F.R.C.S. Eng. The report stated that 1990 patients had been treated during 1901. The financial statement showed a favourable balance of £4.

OPPOSITION TO THE "CONSCIENTIOUS OBJECTION" CLAUSE.—At the meeting of the Bodmin Town Council held on Feb. 4th, and also at the meeting of the Exmouth District Council held on Feb. 5th, it was decided to support a petition for the repeal of the clause in the Vaccination Act of 1898 relative to conscientious objections to vaccination.

DR. G. VIVIAN POORE will occupy the chair on the occasion of the complimentary dinner to be given to Captain E. T. Inkson, V.C., R.A.M.C., by the Union Society of University College and Hospital on Friday, Feb. 21st, at the Café Royal, Regent-street, W. Tickets (6s. 6d. each) can be obtained on application to Mr. W. L. Scott, University College, Gower-street, W.C.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Registration of Plumbers.

THE Bill for the establishment of a national system for the registration of plumbers has been introduced once more, this time in the House of Lords. Lord Glenesk has charge of the Bill and at a recent sitting of the House of Lords he obtained a second reading for it.

Medical Acts (Extension) Bill.

Attached to the Medical Acts (Extension) Bill introduced by General Laurie is a memorandum in the following terms—viz.: "Since the passing of the Medical Act, 1858, very great advance has been made in medical education throughout the empire and especially in the self-governing colonies. This Bill provides that where the examiners and course of education at the principal colonial schools of medicine are in all respects the same as those practised in the United Kingdom and subject to the supervision of the General Medical Council, medical men from Greater Britain should, when proved to be properly qualified, be admissible to serve the Empire in the naval and military and civil services of the Crown. Surgeons of the highest standing in Canada and holding commissions from His Majesty in the militia volunteered for service in South Africa and a complete field hospital was offered by Canada, and in both cases the War Office refused to accept such service on the ground that it was contrary to the Medical Act of 1858 to permit a colonially trained surgeon to attend professionally to British troops. The object of the amending Bill is to remove this disqualification." The second reading of the Bill was put down for Wednesday, Feb. 12th, but other business occupied the House on that day and it had to be postponed.

HOUSE OF COMMONS.

FRIDAY, FEB. 7TH.

Inoculation against Enteric Fever.

Mr. EUGENE WASON asked the Secretary of State for War whether he could now give any information as to the result of inoculation against enteric fever amongst the troops in South Africa, and what proportion of those who had died from enteric fever were inoculated, and how many were not inoculated.—Lord STANLEY replied: The report of a civil surgeon who was specially detailed to collect the information in South Africa has not yet been completed. I am not, therefore, in a position to give the information desired.

MONDAY, FEB. 10TH.

The Housing of the Working-classes.

Mr. LONG, in reply to a question with regard to the housing of the working-classes, said that he could not at present state when he should be in a position to move for the appointment of the proposed Select Committee to inquire into the period for the repayment of loans raised by local authorities, but due notice would be given of the motion. He did not propose that the committee should be asked to inquire into other matters in connexion with the housing of the working-classes.

Suspected Beer Poisoning at Halifax.

Sir CUTHBERT QUILTER asked the President of the Local Government Board whether his attention had been called to the recent cases of suspected beer poisoning in the borough of Halifax; whether any investigation by his department or by any local authority had taken place; and if so, with what result?—Mr. LONG replied: My attention has been called to the cases referred to in the question, and I have ascertained that local investigations are now being made by the Assistant Commissioner of the Royal Commission on Arsenical Poisoning as well as by the medical officer of health of the borough.

Poor-law Medical Officers in Ireland.

Mr. J. P. FARRELL asked the Chief Secretary to the Lord Lieutenant of Ireland, having regard to the fact that although medical officers summoned by subpœna to give evidence in criminal cases were paid their fees at professional rates in the cases of dispensary officers absent on such duties the ratepayers were called upon to pay a locum-tenent, whether he would consider the advisability of ordering in future that such medical officers must provide their own substitute.—Mr. WYNDHAM replied: The Local Government Board has been advised that a medical officer compelled by subpœna to be absent from his district is temporarily incapacitated from performing his duties within the meaning of the Relief Act and Orders, and the board of guardians is bound, therefore, to make provision for the care of the sick poor during his absence by employing and paying a temporary substitute. It is a matter of very rare occurrence for a board of guardians to have to incur expenses such as these.

The Supply of Vaccine Lymph.

Mr. BARTLEY asked the President of the Local Government Board whether, seeing the importance of all persons being vaccinated and revaccinated with vaccine lymph of guaranteed quality made in this country, and not obtained from abroad or from other sources which were not so guaranteed, he would take steps to provide with the least possible delay an adequate supply of Government lymph so that every qualified medical practitioner should be able to purchase such Government lymph in such quantities as he might require and at a price just sufficient to pay the cost of its production.—Mr. LONG replied: Having regard to the interest felt in all matters connected with small-pox at the present time perhaps I may be allowed to make a short statement in answer to this question. The duty undertaken by the Government in 1898 was to provide for primary vaccination by public vaccinators and this duty, I may say, has been completely fulfilled. It has also been the desire of the Government as far as possible to provide public vaccinators with lymph for revaccinations and this has been done to the utmost extent practicable. In ordinary times it has been found sufficient to issue from 8000 to 10,000 charges of lymph weekly. Since, however, the epidemic of small-pox began this output has been largely increased and the establishment is now producing some 50,000 charges a week. I may explain that there are several difficulties in connexion with the manufacture of glycerinated lymph. In the first place, it is not possible to store it to any large extent because the period for which it will keep is so uncertain, and I may state that when the demand in consequence of the outbreak of small-pox began to increase there was in reserve the full amount which it was thought practicable to retain. Further, the lymph takes some weeks to mature, especially as it is of importance that all practicable means should be used to test its efficiency and purity before it is issued. Moreover, there is great fluctuation in the demand owing to the habit of so many persons to defer vaccination until small-pox is imminent. Thus in a single fortnight recently the applications for lymph from public vaccinators, which had previously risen to four times the normal demand, suddenly more than doubled. From the inquiries which I have caused to be made I understand that an ample supply of glycerinated calf lymph can be obtained from unofficial sources and that there is no reason to doubt that it is satisfactory in quality. It would, I think, be unfortunate at this moment to enter into competition with private enterprise in this matter. Looking to the considerations I have mentioned I do not see my way at the present time to accede to the suggestion of my hon. friend.—Mr. BARTLEY asked whether there was any guarantee as to the efficiency of the lymph.—Mr. LONG: There is no guarantee in connexion with either official or non-official lymph. Two years ago there was an independent inquiry conducted by THE LANCET into the lymph generally supplied. On that occasion they found considerable fault with the lymph supplied by the Local Government Board and placed it fifth in the list of lymphs arranged in the order of merit. It is impossible to guarantee lymph. What the Local Government Board does is to secure that the utmost care and trouble are taken in its preparation in the hope that it shall prove pure and efficacious. The lymph provided by private commercial firms is, I believe, at the present moment of excellent quality and as good as we can produce ourselves.—Mr. PEASE asked whether it was the fact that large quantities of lymph had been received from the French Government.—Mr. LONG: No, sir, I am not aware of any lymph being supplied by the French Government, but there is a considerable manufacture of lymph by private firms in France which, so far as I know, is of a thoroughly satisfactory character.

TUESDAY, FEB. 11TH.

Small-pox Accommodation at Aldershot.

Colonel TUFNELL asked the Secretary of State for War whether he would state by whose authority huts had been erected on Thorn Hill, Aldershot, specially for the reception of small-pox cases, the site being within a stone's throw of the abattoir established for the killing of animals for the troops at that station.—Mr. BRODRICK replied: This service was carried out by the general officer commanding the First Army Corps on his own initiative. The site is close to the existing isolation hospital. It is 200 yards from the present supply depôt and 400 yards from the new abattoir which is nearly finished.

Major RASCH: May I ask whether this is the same genius who ordered sewage milk to be served out to the troops?—Mr. BRODRICK: No sewage milk was ever served out to the troops.

Sir WALTER FOSTER: Is it not an understood thing that these huts should be at a distance of at least 400 yards?—Mr. BRODRICK: I have no doubt that the medical authorities were consulted as regards the distance, but medical authorities do sometimes disagree upon these points.

BOOKS, ETC., RECEIVED.

MACMILLAN AND CO., Limited, London and New York.

Atlas of Practical Elementary Zootomy. (Being a Revised Edition of the Zoological Portion of the Atlas of Practical Elementary Biology.) By G. B. Howes, M.A., LL.D., F.R.S. With a Preface to the First Edition by the late Right Hon. Professor T. H. Huxley, P.C., F.R.S. Price 10s. net.

NEW ERA PRINTING COMPANY, Lancaster, Pa., U.S.A.

Outlines of Anatomy. A Guide to the Methodical Study of the

Human Body in the Dissecting-room. By Edmund M. Holmes, A.B., M.D. Second Edition. Price not stated.

PENTLAND, YOUNG J., Edinburgh and London.

The Fish River Bush, South Africa, and its Wild Animals. By W. T. Black, M.R.C.S., L.S.A., Assistant Surgeon, Army Medical Staff. Price not stated.

SHAW AND SONS, Fetter-lane, E.C.

Transactions of the Epidemiological Society of London. New Series. Vol. XX. Session 1900-1901. Price not stated.

SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.

Where to Buy: a Guide to the Professions and Business Houses. By C. M. Knowles. Price 5s. 6d.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ALLAN, G., M.D. Aberd., has been appointed Clinical Assistant to the Medical Department of Prince Alfred Hospital, Sydney.

ANDERSON, D. LECHMERE, L.R.C.P., L.R.C.S. Edin., Medical Officer of Health for Peterhead and Ellon, Scotland, has been appointed Medical Officer of Health for the Borough of Doncaster and the Urban Districts of Balby-with-Hexthorpe and Wheatley.

AWDRY, WALTER ROBERT, M.B. Durh., M.R.C.S., has been appointed Honorary Medical Officer to the Berkeley Cottage Hospital.

BATTEN, RAYNER WINTERBOTHAM, M.D. Lond., F.R.C.P., M.R.C.S., has been appointed Honorary Consulting Physician to the Berkeley Cottage Hospital.

BRUNYATE, T. T., M.A., M.D. Oxon., has been appointed Physician to St. Bartholomew's Hospital, Rochester.

DEANE, EDWARD WILKINSON, M.B. Melb., has been appointed Public Vaccinator for the North-western District, Melbourne, Victoria.

FETHERSTON, RICHARD HERBERT, M.D. Melb., has been appointed Public Vaccinator for the Metropolitan District, Melbourne, Victoria.

FULLERTON, ROBERT JOHN, L.R.C.P. Edin., has been appointed Public Vaccinator for the Northern District, Melbourne, Victoria.

HALLIDAY, J. C., M.B., Ch.M. Syd., has been appointed Clinical Assistant to the Ophthalmic Department of Prince Alfred Hospital, Sydney.

HARKNESS, EDWARD, L.R.C.P. Edin., has been appointed Public Vaccinator for the South-eastern District, Melbourne, Victoria.

JACOBS, J. M. C., L.D.S. Eng., has been appointed Honorary Dental Surgeon to Queen Adelaide's Dispensary, Pollard-row, Bethnal Green.

KATER, N. W., M.B. Syd., has been appointed Clinical Assistant to the Medical Department of Prince Alfred Hospital, Sydney.

MUNRO, A. W., M.D. Edin., has been appointed Clinical Assistant to the Gynæcological Department of Prince Alfred Hospital, Sydney.

NOLAN, H. R., M.B., Ch.M. Syd., has been appointed Clinical Assistant to the Throat, Ear, and Nose Department of Prince Alfred Hospital, Sydney.

ORMOND, JAMES SERVICE, M.D. Glasg., has been appointed Medical Officer of Health for the town of Malvern, Victoria.

PADWICK, J. C. M.R.C.S., L.R.C.P., has been appointed Medical Officer of Health of Bridgnorth Rural District.

PITCAIRN, G. K., M.B., M.S. Edin., has been re-appointed Medical Officer for Littleborough.

POWELL, W. WYNDHAM, F.R.C.S., has been appointed Surgeon to the Westminster General Dispensary.

SHAW, JOHN EDWARD, M.B., C.M. Edin., has been appointed Honorary Physician to the Clifton (Bristol) Dispensary, vice Dr. Fyffe, deceased.

SPENCE, BASIL A., M.B., Ch.B. Edin., has been appointed Dispensary Surgeon to the Bradford Royal Infirmary.

STEVENS, W. MITCHELL, M.D. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Assistant Physician to the Cardiff Infirmary, vice Dr. Herbert R. Vachell.

TERRY, HEDLEY, M.B., M.Ch. Syd., has been appointed to be Medical Officer to the Aborigines at Kiama, N.S.W.

TURPIN, D. W. M., L.K.Q.C.P., L.R.C.S. Irel., has been appointed District Medical Officer of Shardlow Union.

VACHELL, HERBERT REDWOOD, M.D., C.M. Aberd., M.R.C.S., L.S.A., has been appointed Honorary Physician to the Cardiff Infirmary, vice C. Tanfield Vachell, resigned.

WEARNE, WALTER, M.R.C.S., L.S.A., has been re-elected Medical Officer to the Helston (Cornwall) Public Dispensary.

WHEATLEY, JAMES, M.D. Lond., has been appointed Medical Officer of Health to the Shropshire County Council, vice Dr. Porter.

WILLS, ERNEST, M.D. Lond., M.R.C.P., has been appointed County Health Officer and Examiner in Lunacy for Weld County, Colorado, U.S.A.

YOUNG, H. C. T., M.D. Glasg., has been appointed Clinical Assistant to the Gynæcological Department of Prince Alfred Hospital, Sydney.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASHTON-UNDER-LYNE DISTRICT INFIRMARY.—House Surgeon. Salary £120 a year and board and lodging.

BELGRAVE HOSPITAL FOR CHILDREN.—Ophthalmic Surgeon; Assistant Physician; Assistant Surgeon; Sanitary Officer.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Male House Surgeon. Salary £80 per annum, with board and washing.

BLACKBURN COUNTY BOROUGH.—Medical Officer of Health. Salary £550 per annum.

BOOTLE BOROUGH HOSPITAL, Liverpool.—Senior Resident. Salary £100 per annum, with board and laundry.

BRADFORD EYE AND EAR HOSPITAL.—Honorary Surgeon.

BRENTFORD UNION INFIRMARY, WORKHOUSE, AND SCHOOLS.—Assistant Medical Superintendent, unmarried. Salary £100 per annum, with apartments, rations, washing, &c.

BRIDGWATER INFIRMARY.—House Surgeon. Salary £80 a year, with board and residence.

BURY INFIRMARY.—Junior House Surgeon. Salary £90, with residence, board, and attendance.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road.—House Surgeon (non-resident). Honorarium at rate of 40 guineas a year.

CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITAL, Parkhill.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and lodging.

DAVID LEWIS NORTHERN HOSPITAL, Liverpool.—Assistant House Surgeon. Salary £70 per annum, with residence and maintenance.

DONCASTER RURAL DISTRICT.—Medical Officer of Health. Salary £300 per annum.

DURHAM COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £150, rising to £180, with board, apartments, laundry, and attendance.

DURHAM COUNTY HOSPITAL.—House Surgeon; also Junior House Surgeon. Salary of Senior, £100, with board and lodging; of Junior, £50, with board and lodging.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Surgeon for six months. Honorarium of £25, with board, residence, &c.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £30, washing allowance £2 10s., with board and residence.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Two House Surgeons (Senior and Junior). Salaries: Senior, £100; Junior, £75; each with residence, board, and washing.

KENT AND CANTERBURY HOSPITAL.—House Surgeon, unmarried. Salary £100 a year, with board and lodging.

LANCASHIRE COUNTY ASYLUM, Winwick, Newton-le-Willows.—Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £200, with apartments, board, attendance, and washing.

MANCHESTER SCHOOL BOARD.—Medical Officer. Salary £250 per annum.

MIDDLESEX HOSPITAL, W.—Medical Registrar.

PRESTON ROYAL INFIRMARY.—Assistant House Surgeon. Salary £60 per annum, with board, lodging, washing, &c.

QUEEN'S JUBILEE HOSPITAL, Earl's Court, S.W.—Resident House Surgeon. Salary £50 per annum, with board, &c. Also Physician. Also Gynæcologist.

ROYAL BOSCOMBE AND WEST HANTS HOSPITAL, Bournemouth.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ROYAL DENTAL HOSPITAL OF LONDON.—Demonstrator. Honorarium £100 per annum.

ROYAL PIMLICO DISPENSARY, 104, Buckingham Palace-road.—Attending Medical Officer.

SHEFFIELD ROYAL HOSPITAL.—Junior Assistant House Surgeon, unmarried. Salary £50 per annum, with board and lodging.

STOCKPORT INFIRMARY.—House Surgeon. Salary £100 per annum, with residence, board, and laundry.

TOTTENHAM URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary £500 per annum.

WARNEFORD HOSPITAL, Leamington.—House Surgeon. Salary £100 per annum, with board, washing, and apartments.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

Births, Marriages, and Deaths.

BIRTHS.

FISHER.—On Feb. 10th, at Sittingbourne, Kent, the wife of H. Holdrich Fisher, M.D. Lond., of a son.

FREDERICK.—On Feb. 4th, at North Woolwich-road, Silvertown, the wife of Edward G. Frederick, M.R.C.S., L.R.C.P. Lond., of a son.

FRERE.—On Feb. 6th, the wife of A. Hanbury Frere, M.B., C.M., of Diss, Norfolk, of a son.

LOTZ.—On Feb. 3rd, at Fremantle, Western Australia, the wife of H. J. Lotz, L.R.C.P. Lond., M.R.C.S., D.P.H., of a son.

RANDALL.—On Feb. 8th, at Queen's-road, Wimbledon, the wife of Surgeon Philip N. Randall, M.B. Lond, Royal Navy, of a daughter.

MARRIAGES.

ASH—BRATT.—On Feb. 11th, at Christ Church, Mayfair, London, Lieutenant-Colonel Robert Vacy Ash, A.M.S., retired, of Fleetwood, Lancashire, to Florence May, daughter of Henry Bratt, J.P.

WADE—DAWES.—On Feb. 6th, at the parish church of St. Mary, Rye, Sussex, Ernest Wentworth Wade, of Harleston, Norfolk, M.D. Dubl., to Elsie Katherine, eldest daughter of Walter Dawes, solicitor, Rye.

WARING—MILVAIN.—On Feb. 10th, at Adwick-le-Street, near Doncaster, Alfred John Waring, M.B. Lond., to Isabel Catherine Milvain, daughter of the late James Milvain, Newcastle-on-Tyne.

DEATHS.

BLATHERWICK.—On Feb. 6th, at his residence, Queen's Mead-road, Bromley, Kent, Deputy-Surgeon-General Thomas Blatherwick, in his 79th year.

FORT.—On Feb. 10th, at Standerton, of enteric fever, Percy Reginald Fort, L.R.C.P. Lond., aged 28 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

CRANIOTOMY IN A LIVING CHILD.

To the Editors of THE LANCET.

SIRS,—Is it a fact that there is a definite Papal injunction prohibiting Catholic medical men from sacrificing an unborn infant's life in order to save the mother's life—e.g., when there is hydrocephalus or in a long jammed arm presentation, far advanced, and when the mother is too weak for Cæsarean section? It is a noteworthy fact that in these and analogous cases a medical man is bound to take human life (if a living unborn infant is counted as a life). For if he allows things to take their ordinary course the mother must die. By his action he could have saved her life; by his refraining from action he has taken her life in reality; by taking the infant's life he has taken probably (and probability must be the guide) a less useful life. But the point is that he is bound to take a life, by action or by refraining from action, and he cannot in doing his duty get out of it, be he Catholic or Protestant.

I am, Sirs, yours faithfully,

Jan. 28th, 1902. INSTES.

*** We do not know of any definite Papal injunction to the effect mentioned in our correspondent's letter, but the practice of sacrificing the life of the child to save that of the mother is to the best of our belief not considered lawful by the Roman Catholic Church. The following document is quoted by Capellman, "Medicina Pastoralis," second Latin edition, published at Aix-la-Chapelle in 1891. It is an answer sent by the Holy Office to the Cardinal Archbishop of Lyons.

"Eminentissime et Reverendissime Domine!

Eminentissimi P.P. mecum Inquisitores Generales in Congregatione Generali habita feria IV, die 28. labentis Maii, ad examen revocarunt dubium ab Eminentia tua propositum: 'An tuto doceri possit in scholis catholicis, licitam esse operationem chirurgicam, quam craniotomiam appellant, quando scilicet ea omissa, mater et filius perituri sint, ea e contra admissa, salvanda sit mater, infante pereunte?' Ac omnibus diu et mature perpensis, habita quoque ratione eorum, quæ hac in re a peritis catholicis viris conscripta ac ab Eminentia tua huic Congregationi transmissa sunt, respondendum esse duxerunt; *Tuto doceri non posse.* Quam responsionem, cum S. S. D. N. in audientia eiusdem Feriae et Dici piene confirmaverit, Eminentiae tuae communico, tuasque manus humillime deosculor, humillimus ac addictissimus servus vester.

Romae, 21 Mai 1884. R. CARDINALIS MONACO."

—ED. L.

MEDICAL AID ASSOCIATIONS AND THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—Among the letters on the above subject no mention has been made of *private* collectors. These men go about canvassing from house to house and are paid either by commission on their collections or by a fixed salary, often with an understanding that if their weekly collections do not increase their salary will be reduced. Now in a small town it soon becomes generally known that the collectors of a certain insurance company have been forbidden to do any canvassing, and, moreover, are not allowed to put on their list any new members whatever. What is the result? Why, the *private* collectors employed by other medical men immediately work upon this to their own advantage. Your correspondent, Mr. John MacCormac, states that medical men are "notoriously unbusinesslike"; they would, indeed, be so did they give up an appointment bringing in a good substantial sum a year in order that it might be thrown into the hands of their opponents. I would recommend that the 2000 medical men affected by the recent case at Great Yarmouth form a union and demand fair play. The General Medical Council might, with more credit to themselves and a great deal more benefit to general practitioners, turn their attention to the prescribing chemist. On more than one occasion when visiting patients I have discovered that, instead of taking the medicine they have had from me, they have obtained a bottle from a chemist, still expecting me to go on attending. I have then told them that should the patient die they may as well apply to the chemist for the death certificate.

I am, Sirs, yours faithfully,

Feb. 3rd, 1902. G. P.

DISINFECTION AND SMALL-POX.

A CORRESPONDENT—a medical man—writes to us as follows: "At the present time, when we are again visited by small-pox in an epidemic form in the metropolis, it may be considered desirable that a general disinfection of the houses, both infected and otherwise, with chlorine in the parishes where the disease is prevalent should be adopted." We cannot think that our correspondent's suggestion is feasible, or that even if it were so it would be useful. To disinfect every house in all the parishes where small-pox is prevalent would be almost impossible. To disinfect any one house in which a case of infectious disease has occurred is not only possible, but is always done if the matter gets to the ears of the sanitary authorities, and the process, combined with the removal of the patient, goes far to prevent the spread of the infection. But what is the use of disinfecting an uninfected house? As soon as the chlorine was well out of the house there would be nothing to prevent the germs of small-pox or any other infectious disease obtaining a footing. The cost, too, of disinfecting a whole parish would be very considerable, and the necessary money would be far better spent in cleansing operations or in improving defective dwellings.

THE ORDER FOR THE BURIAL OF THE DEAD.

THE honorary secretary of the Funeral Reform Association, whose letter will be found in another column, asks whether all the funeral service except the committal and the grace might not be said in the church during inclement weather? There is no reason why it should not, except the very pertinent one that the Book of Common Prayer orders otherwise. There is but little else said at the grave, only the burial antiphon and the antiphon commencing, "I heard a voice ....." together with a versicle and response and two prayers. Until the Prayer-book be revised perhaps the bishop might be able to allow the simple and far more beautiful form of burial service laid down in the first Prayer-book, where the office to be said at the grave was shorter, or else the two collects might in the present office be transferred to the end of the lesson and so said before the coming to the grave.

WANTED—AN ANNUITY OFFICE.

To the Editors of THE LANCET.

SIRS,—Can any of your readers inform me of any office which grants annuities according to the state of health of the applicant after medical examination similar to life insurance? Also if the same is allowed by law for purchase of annuities by trustees?

I am, Sirs, yours faithfully,

Jan. 31st, 1902. M.D.

"THE FEAR OF SMALL-POX."

THE following letter appeared in the *Newcastle Daily Journal* of Jan. 30th, under the above heading:—

SIR,—Care should be taken to keep the streets clean. The corporation men should not leave the droppings of the tubs at your back door. There is no need to frighten the people. I have sailed the salt sea. Once our mate took the small-pox after we got out to sea. I nursed him and he got better without a doctor. No one else in the ship took the small-pox.—I am, etc.,

A SAILOR OF THE QUEEN.

We quite agree with this bold mariner's dictum about keeping the streets clean and fully sympathise with the editor of our contemporary on account of the corporation men leaving the droppings of the tubs at his back door. But we cannot understand what small-pox has to do with it. And, on second thoughts, was it small-pox?

VACCINATION GUARDS.

To the Editors of THE LANCET.

SIRS,—I have been asked by several practitioners whether there is a vaccination guard of a similar design to the one which appears illustrated in THE LANCET of Feb. 1st, p. 317, but suitable in size for infants and children. May I be allowed to supplement the particulars already given of this appliance by explaining that precisely the same instrument may be used for any age? In the case of infants or children, however, the upper end should be bent over and moulded by the fingers to fit the curve of the shoulder in each case.

I am, Sirs, yours faithfully,

Feb. 9th, 1902. HAYDN BROWN.

THE STORY OF A HAIRPIN.

To the Editors of THE LANCET.

SIRS,—The following case occurred in my experience about 15 years ago. A labourer, tipsy of a Saturday night, was enjoying a fish supper, when, having, as he fancied, swallowed a bone, he asked his housekeeper for a hairpin, which he proceeded forthwith to straighten and convert into a hook for the purpose of fetching it up, thus . In the attempt the hook caught in the fauces and was swallowed. Having been called in, in due course, as there were no urgent symptoms I contented myself with laying him up in bed and putting him on liquids, determined to await events. There was not much discomfort for a week or two, when he had a sharpish attack of bronchitis lasting for another week or two, towards the end of which a hardness was felt in the epigastric region, which by-and-by developed into a distinctly sausage-shaped tumour, lying midway between the sternum and the umbilicus, a little to the left of the middle line and sloping obliquely downwards from right to left. This being carefully palpated from day to day, a hard point was felt towards the lower end gradually approaching the skin, which it eventually perforated, protruding for about half an inch, and necessitating the use of a tent to prevent contact with the bed-clothes. It could be cautiously drawn out for an inch or two without causing any pain, and I was under the impression at the time that, could he have been constantly watched and kept lying on his back, with a weight attached to it over a pulley in the tent, the thing would gradually have eaten its way through without any further ado. But as this was impracticable I secured the assistance of Mr. G. B. Morgan who introduced a tangle-tent down through the comparatively open passage alongside the pin with the view of

dilating it sufficiently so as to allow the escape of the hooked end. This not being successful, seizing the free end and pulling firmly upon it, he cautiously cut round the pin with a pair of scissors, thus easily extricating it, and without any hæmorrhage, either external or internal, the part healing at once without any further trouble and the patient recovering perfectly.

This case is interesting from its exceptional rarity, and as showing what unaided nature can do, especially in these days when, as Sir Felix Semon has pointed out with reference to another region of surgery, there is such a frantic rush to the stern arbitrament of the knife in all sorts of cases.—I am, Sirs, yours faithfully,

Sunderland, Jan. 29th, 1902. B. STRACHAN, M.B. Glasg.

SERO-THERAPY AND GOVERNMENT CONTROL.

AT the conclusion of a lecture at the Royal Institution on Feb. 11th Professor A. Macfadyen urged the desirability of a Government laboratory being established in which the preparation and standardisation of sera and antitoxins should be conducted. It has been for some time strongly recognised that a control laboratary is needed, and the Government ought to add a State biological laboratory to its present equipment, which at present only admits of the control of the Excise and the administration of the Food and Drugs Acts at the chemical laboratories in Clement's-inn. At the present time the need of some official control is particularly felt in regard to lymph for vaccination.

WANTED—A PRIVATE HOSPITAL.

To the Editors of THE LANCET.

SIRS,—Could you or one of your readers tell me of a home or private hospital for a young lad who is suffering from diabetes? I find that in his own house the diet cannot be properly restricted and I wish to put him where this can be strictly attended to.

I am, Sirs, yours faithfully,

Feb. 2nd, 1902. SACCHARUM.

A CURE FOR WARTS.

To the Editors of THE LANCET.

SIRS,—In answer to the query by "At My Wit's End" in THE LANCET of Feb. 8th, p. 420, in reference to the cure of warts, I would suggest that your correspondent revaccinates his patient. I have reported the effects of revaccination upon warts in THE LANCET of Sept. 22nd, 1900, p. 876. I am, Sirs, yours faithfully,

Bristol, Feb. 8th, 1902. J. D. STAPLE, M.R.C.S. Eng., L.S.A.

To the Editors of THE LANCET.

SIRS,—In answer to "At My Wit's End" I would recommend him to try oleum terebinthinæ applied many (20) times a day and rapidly dried in before a fire. I know of a case where many remedies had been tried (by a specialist), even excision, unsuccessfully and which yielded to the above treatment. I am, Sirs, yours faithfully,

HEYWOOD SMITH.

Harley-street, Cavendish-square, W., Feb. 10th, 1902.

To the Editors of THE LANCET.

SIRS,—Your correspondent "At My Wit's End" asks for a suggestion for treating warts on the hands of a lady. Has he tried making her wear gloves constantly and keeping the inside of the gloves well dusted with a mixture of equal parts of French chalk and calomel carefully mixed? I find it more useful than anything else. Of course, he must look out for symptoms of mercurial absorption, but I have never had any trouble, and generally the warts go.

I am, Sirs, yours faithfully,

Feb. 8th, 1902. SIMPLE SIMON.

To the Editors of THE LANCET.

SIRS,—I am not in the habit of prescribing for one of the *genus homo*, but if the warts that your correspondent complains of in THE LANCET of Feb. 8th, p. 420, belong to the papillomata he will find that a saturated watery solution of sodium hydroxide will remove them. It will first be necessary to get rid of the acetic acid which his patient has been applying to the growths by a liberal application of soap-and-water, otherwise the soda solution will be neutralised by the acid. Then with a glass rod apply and smear over each wart one drop of the caustic soda once a day or oftener for two or three days.

I am, Sirs, yours faithfully,

Ealing, W., Feb. 7th, 1902. H. M. SINGLETON, M.R.C.V.S.

THE MORTALITY AFTER OPERATIONS FOR APPENDICITIS.

To the Editors of THE LANCET.

SIRS,—I should be glad if some of your readers would be kind enough to give their experience regarding cases of appendicitis occurring in their private practice which have been treated by operation during the acute stage. The number of cases within my ken that have died shortly after the operation represent a very large percentage mortality, and the last week two more have been added to the roll. On the other hand, the few cases I have known which for various reasons have refused to submit to operation have in most instances recovered completely. All I ask for is statistics, and if they prove that the risk of death from general peritonitis is less than the risk of death from collapse and other causes after operations (in private houses), then are we general practitioners to continue to recommend the operation? I am, Sirs, yours faithfully,

Jan. 23rd, 1902. M.B.

Nemo.—We are not sure that we understand our correspondent's letter. Anyhow, no one can be bound by the conditions of a document which he has not seen. He may be bound because he has given his word, and what he has undertaken to do may afterwards be put upon paper; but he is morally bound by his word and not legally bound by the document unless he has seen it and approved it as recording his promise.

G. S. M.—"Surgical Emergencies," by W. P. Swain, F.R.C.S. Eng., now in its fifth edition. London: J. and A. Churchill.

Medical Student.—The guide in question is now obsolete.

K. L. S.—The article is not of sufficient medical interest.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

WEDNESDAY (19th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (20th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.).

SATURDAY (22nd).—Royal Free (9 A.M. and 2 P.M.), London (2 P.M.) Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.), Throat, Golden-square (9.30 A.M.)

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (17th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—9 P.M. Mr. A. Pearce Gould: Lettsomian Lectures on Certain Diseases of the Blood-vessels. Lecture I. Varicose Veins:—Nature, Influence of Heredity, Regurgitation from Deep Veins, Importance, the Value of Trendelenburg's Operation.

TUESDAY (18th).—CHELSEA CLINICAL SOCIETY (Jenner Institute of Preventive Medicine, Chelsea-gardens, Grosvenor-road, S.W.).—8.30 P.M. Clinical Case:—Dr. W. Ewart and Dr. L. Wilkinson: Relapse of Pernicious Anæmia after Radical Cure of Oral Sepsis by Complete Removal of the Teeth. Papers:—Mr. H. L. Albert: Oral Sepsis, with Bacteriological Demonstration by Prof. R. T. Hewlett.—Dr. J. W. Flanagan: Tuberculosis and the Poor Law.

PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Card Specimens: Mr. H. L. Barnard: (1) Melanotic Sarcoma of Finger Nail; (2) Melanotic Pigmentation around the Anus, Secondary Deposits in Glands.—Mr. E. Johnson: Hernia into Tunica Vaginalis with Invagination of the Neck of the Sac. Prof. R. Muir: The Reactions of the Bone-marrow and other Leucocyte-forming Tissues in Infections. (Lantern Demonstration.)

WEDNESDAY (19th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Paper:—Mr. E. M. Nelson: Polarising with the Microscope.

SOCIETY OF ARTS.—8 P.M. Mr. E. S. Bruce: The Use of Balloons in War.

THURSDAY (20th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M. Clinical Cases will be shown by Dr. J. Taylor, Dr. Morison, Dr. Caley, Dr. Eddowes, and others.

FRIDAY (21st).—EPIDEMIOLOGICAL SOCIETY (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Meeting.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-st., W.).—Cases will be shown by Dr. C. O. Hawthorne, Mr. S. Stephenson, Mr. J. J. Clarke, Mr. E. W. Goble, Dr. L. C. Chaffey, and Dr. G. Carpenter. Papers:—Dr. C. N. Gwynne (Sheffield): Notes on a Case of Congenital Dilatation of the Sigmoid Flexure of the Colon.—Dr. J. P. Parkinson: The Local Treatment of Adenoids.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (17th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Dr. T. G. Brodie: The Pulmonary Circulation, more particularly in relationship to Variations in Cardiac Activity. (Arris and Gale Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. T. C. FOX: Clinique. (Skin.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Saunders: Therapeutics.

TUESDAY (18th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. R. L. Bowles: Clinique. (Medical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Keetley: Appendicitis.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Ormerod: Hysteria.

WEDNESDAY (19th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Dr. T. G. Brodie: The Pulmonary Circulation, more particularly in relationship to Variations in Cardiac Activity. (Arris and Gale Lecture.)

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL (Gray's Inn-road, W.C.).—8 P.M. Dr. Holloway: Ear Diseases accompanied by Discharge.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. A. H. Tubby: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. McAdam Eccles: Lantern Demonstrations on Hernia.

THURSDAY (20th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. Corfield: The Etiology of Typhoid Fever and its Prevention. (Milroy Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Davis: Medical Anatomy and Physical Diagnosis.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Hutchison: Different Forms of Paralysis in Children. (Lantern Demonstration).

CHARING-CROSS HOSPITAL.—4 P.M. Dr. Willcocks: Medical Cases. (Post-Graduate Course.)

FRIDAY (21st).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Dr. T. G. Brodie: The Pulmonary Circulation, more particularly in relationship to Variations in Cardiac Activity. (Arris and Gale Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr D. Grant: Clinique. (Ear.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Moullin: Ectopic Gestation.

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Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

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MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1901, which was completed with the issue of Dec. 28th, and the Title-page to the Volume, were given in THE LANCET of Jan 4th.

VOLUMES AND CASES.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 13th, 1902.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 a.m.
Feb. 7	29·39	N.E.	...	61	41	34	34	36	Overcast
" 8	29·34	S.W.	...	63	40	35	36	37	Overcast
" 9	29·31	W.	0·09	54	38	32	33	33	Fine
" 10	29·52	N.	...	53	36	31	31	32	Cloudy
" 11	29·75	S.W.	...	61	41	27	Fzn.	28	Hazy
" 12	29·94	E.	...	46	37	28	30	31	Foggy
" 13	29·90	N.E.	...	54	37	28	Fzn	29	Foggy

During the week marked copies of the following newspapers have been received:—*Rivista Medica de San Paulo, Echo, Yorkshire Post, Standard, Bristol Mercury Liverpool Daily Post, La Caducée, Hong-Kong Weekly Press, Herts Advertiser, Times of India, Reading Mercury, Aberdeen Free Press Mining Journal, Local Government Chronicle, Windsor and Eton Express, Thrapston and Raunds Journal, Review of the River Plate, Revista Ibero-Americana de Ciencias Médicas, Nottingham Guardian, Hertfordshire Mercury, Pharmaceutical Journal, Manchester Guardian, Dublin Evening Telegraph, Southampton Echo Stafford Advertiser, Glasgow Evening Times, Leeds Mercury, Coventry Herald, Belfast News, Birmingham Daily Mail, Municipal Reformer, Allgemeine Medicinische Central-Zeitung, Liverpool Journal of Commerce, Il Policlinico, Halifax Courier, Aberdeen Daily Journal, &c.*

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